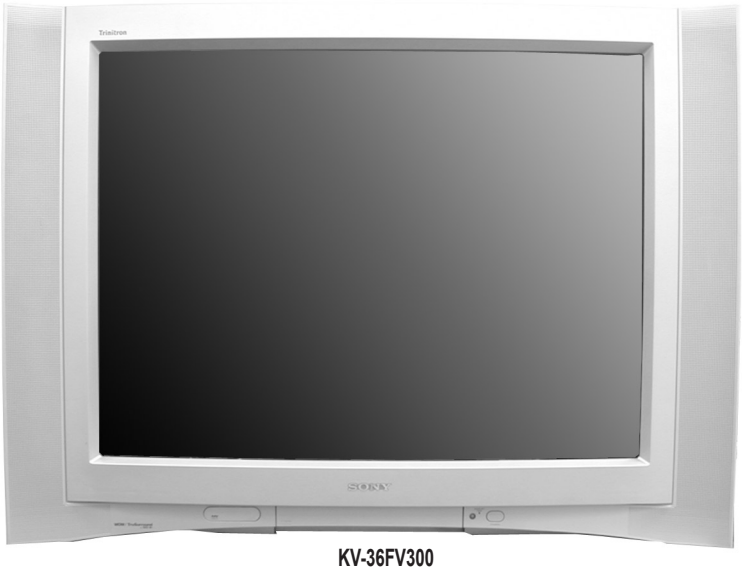
Self Diagnosis Supported model

SERVICE MANUAL

BA-5D CHASSIS

MODEL NAME	REMOTE COMMANDER	DESTINATION	CHASSIS NO.
KV-29FV300	RM-Y181	LATIN NORTH	SCC-S62BA
KV-29FV300	RM-Y181	LATIN SOUTH	SCC-S62CA



KV-36FV300

RM-Y182

TRINITRON® COLOR TELEVISION

SONY®

9-965-924-01

TABLE OF CONTENTS

SECTION TITLE **PAGE**

Specifications 4
Warnings and Cautions 5
Safety Check-Out 6
Self-Diagnostic Function 7

1. Disassembly
1-1. Rear Cover Removal 10
1-2. Chassis Assembly Removal 10
1-3. Service Position 10
1-4. Picture Tube Removal 11
Anode Cap Removal Procedure 11

2. Set-up Adjustments
2-1. Beam Landing 12
2-2. Convergence 13
2-3. Focus 15
2-4. Screen (G2) 15
2-5. White Balance Adjustments 15

3. Safety Related Adjustments
3-1. ⋈ R530, R531 Confirmation Method (Hold-Down Confirmation) and Readjustments 16
3-2. B+ Voltage Confirmation and Adjustment 16

4. Circuit Adjustments
4-1. Setting Service Adjustment Mode 17
4-2. Memory Write Confirmation Method 17
4-3. Remote Adjustment Buttons and Indicators 17
4-4. Service Data Lists 18
4-5. ID Map Table 26
4-6. Board Adjustments 26

5. Diagrams
5-1. Circuit Board Location 29
5-2. Printed Wiring Board and Schematic Diagrams Information 29
5-3. Block Diagram and Schematics 30
A Board Schematic Diagram 31
BC Board Schematic Diagram 39
HU Board Schematic Diagram 42
P Board Schematic Diagram 44
HR Board Schematic Diagram 46
T Board Schematic Diagram 47
C Board Schematic Diagram 48
V Board Schematic Diagram 50
GK Board Schematic Diagram 52
5-4. Semiconductors 54

6. Exploded Views
6-1. Chassis (KV-27FV300/29FV300 ONLY) 55
6-2. Picture Tube (KV-27FV300/29FV300 ONLY) 56
6-3. Chassis (KV-32FV300 ONLY) 57
6-4. Picture Tube (KV-32FV300 ONLY) 58
6-5. Chassis (KV-36FV300 ONLY) 59
6-6. Picture Tube (KV-36FV300 ONLY) 60

7. Electrical Parts List 61

SPECIFICATIONS

	KV-27FV300 KV-29FV300	KV-32FV300	KV-36FV300
Power Requirements	120V, 60Hz		
Number of Inputs/Outputs			
Video [1]	3		
S Video [2]	2		
Y, P_B, P_R [3]	1		
Audio [4]	3		
Audio Out [5]	1		
Monitor Out	1		
Speaker Output (W)	7.5 W x 2, 15 Wsubwoofer		
Power Consumption (W)			
In Use (Max)	220 W	230 W	230 W
In Standby	1W	1W	1W
Dimensions (W x H x D)			
mm	784 x 601.5 x 520 mm	898 x 682 x 584 mm	1020 x 760 x 640 mm
in	$30^{7/8}$ x $23^{11/16}$ x $20^{1/2}$in	$35^{3/8}$ x $26^{7/8}$ x 23 in	$40^{1/4}$ x 30 x $25^{1/4}$ in
Mass			
kg	48 kg	78 kg	102 kg
lbs	105 lbs. 13 oz.	171 lbs. 15 oz.	224 lbs. 14 oz.

1) 1 Vp-p 75 ohms unbalanced, sync negative
2) Y: 1 Vp-p 75 ohms unbalanced, sync negative
   C: 0.286 Vp-p (Burst signal), 75 ohms
3) Y: 1.0 Vp-p, 75 ohms, sync negative;
   PB: 0.7 Vp-p, 75 ohms
   PR: Vp-p, 75 ohms
4) 500 mVrms (100% modulation), Impedance: 47 kilohms
5) More than 408 mVrms at the maximum volume setting (variable)
   More than 408 mVrms (fix)

Television system
American TV standard, NTSC

Channel coverage
VHF: 2-13/ UHF: 14-69/ CATV: 1-125

Picture tube
FD Trinitron® tube

Visible screen size
27 inch picture measured diagonally (KV-27FV300/29FV300)
32 inch picture measured diagonally (KV-32FV300)
36 inch picture measured diagonally (KV-36FV300)

Actual screen size
29 inch measured diagonally (KV-27FV300/29FV300)
34 inch measured diagonally (KV-32FV300)
38 inch measured diagonally (KV-36FV300)

Antenna
75-ohm external antenna terminal for VHF/UHF

Supplied Accessories
Size AA (R6) batteries (2)
Remote Control RM-Y181 (1) (KV-27FV300/29FV300)
Remote Control RM-Y182 (1) (KV-32FV300/36FV300)
Wireless Headphones (1) (KV-32FV300/36FV300)

Optional Accessories
TV Stand: SU-27HV2 for (KV-27KV300/29FV300)
SU-32HV3 for (KV-32KV300)
SU-36HV3 for (KV-36KV300)

Design and specifications are subject to change without notice.

XBR
TruSurround™ by SRS (●)®

TruSurround is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and in select foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents. Purchase of this product does not convey the right to sell recordings made with the TruSurround technology.

(●) SRS (SOUND RETRIEVAL SYSTEM)

The (●) SRS (SOUND RETRIEVAL SYSTEM) is manufactured by Sony Corporation under license from SRS Labs, Inc. It is covered by U.S. Patent No. 4,748,669. Other U.S. and foreign patents pending.

The word 'SRS' and the SRS symbol (●) are registered trademarks of SRS Labs, Inc. BBE and BBE symbol are trademarks of BBE Sound, Inc. and are licensed by BBE Sound, Inc. under U.S. Patent No. 4,638,258 and 4,482,866.

WARNINGS AND CAUTIONS

CAUTION

Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield, or carbon painted on the CRT, after removing the anode.

WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the ac power line.

⚠ SAFETY-RELATED COMPONENT WARNING!!

Components identified by shading and ⚠ mark on the schematic diagrams, exploded views, and in the parts list are critical for safe operation. Replace these components with Sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. Circuit adjustments that are critical for safe operation are identified in this manual. Follow these procedures whenever critical components are replaced or improper operation is suspected.

ATTENTION!!

Apres avoir deconnecte le cap de l'anode, court-circuiter l'anode du tube cathodique et celui de l'anode du cap au chassis metallique de l'appareil, ou la couche de carbone peinte sur le tube cathodique ou au blindage du tube cathodique.

Afin d'eviter tout risque d'electrocution provenant d'un châssis sous tension, un transformateur d'isolement doit etre utilisé lors de tout dépannage. Le châssis de ce récepteur est directement raccordé à l'alimentation du secteur.

⚠ ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

Les composants identifies par une trame et par une marque ⚠ sur les schemas de principe, les vues explosees et les listes de pieces sont d'une importance critique pour la securite du fonctionnement. Ne les remplacer que par des composants Sony dont le numero de piece est indique dans le present manuel ou dans des supplements publies par Sony. Les reglages de circuit dont l'importance est critique pour la securite du fonctionnement sont identifies dans le present manuel. Suivre ces procedures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement suspecte.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.

2. Check the interboard wiring to ensure that no wires are "pinched" or touching high-wattage resistors.

3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.

4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.

5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.

6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.

7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.

8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

Leakage Test

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.

2. A battery-operated AC milliampmeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).

How to Find a Good Earth Ground

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.

If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble-light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

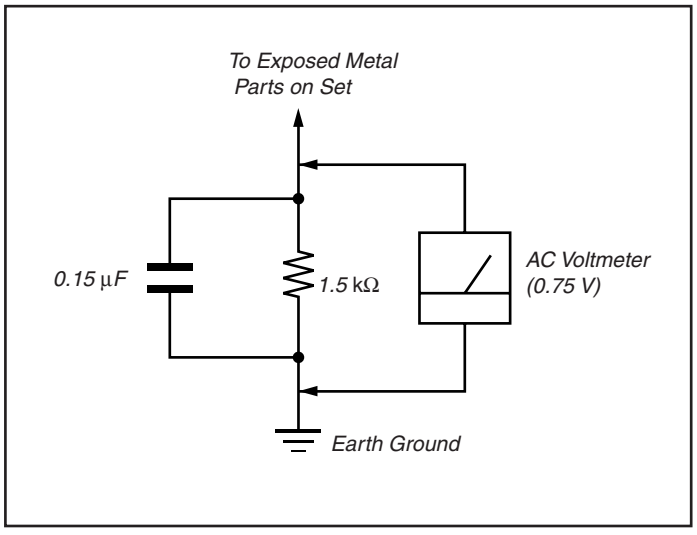


Figure A. Using an AC voltmeter to check AC leakage.

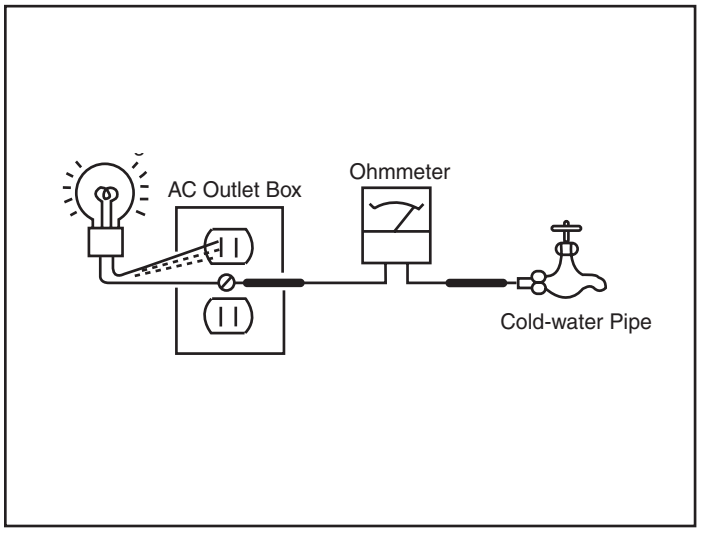


Figure B. Checking for earth ground.

SELF-DIAGNOSTIC FUNCTION

Self Diagnosis Supported model

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER LED will automatically begin to flash. The number of times the LED flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER LED flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the Remote Commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

Diagnostic Test Indicators

When an error occurs, the STANDBY/TIMER LED will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the LED will identify the first of the problem areas.

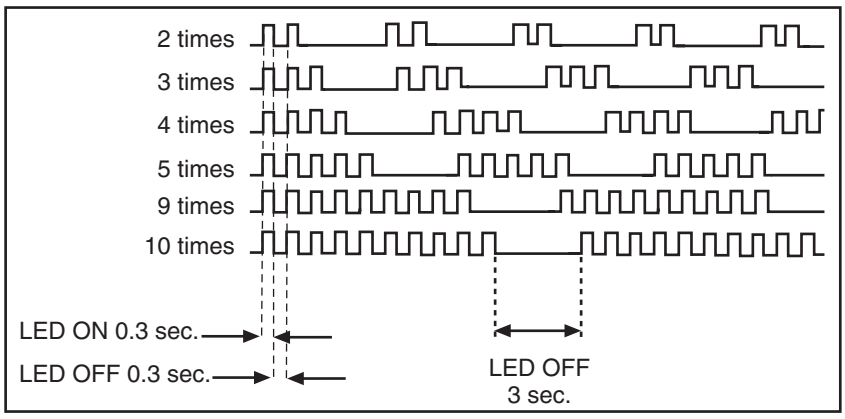
Results for all of the following diagnostic items are displayed on screen. If the screen displays a "0", an error has occurred.

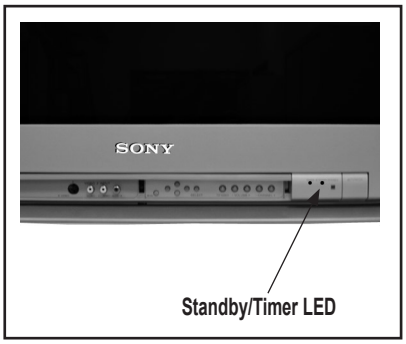
Diagnostic Item	No. of times STANDBY / TIMER lamp flashes	Probable Cause Location	Detected Symptoms
Power does not turn on	Does not light	• Power cord is not plugged in. • Fuse is burned out (F601). (GK Board)	• Power does not come on. • No power is supplied to the TV. • AC Power supply is faulty.
+B overcurrent (OCP)*	2 times	• H.OUT (Q502) is shorted. (A Board) • IC702 is shorted. (C Board)	• Power does not come on. • Load on power line shorted.
+B overvoltage (OVP)	3 times	• IC501 is faulty. (A Board) • If a high is supplied to pin 2 of IC501. (A Board)	• Has entered standby mode.
I-Prot	4 times	• +12V is not supplied. (A Board) • IC561 is faulty. (A Board)	• Has entered standby state after horizontal raster. • Vertical deflection pulse is stopped. • Power line is shorted or power supply is stopped.
IK (AKB)	5 times	• Video OUT (IC561) is faulty. (A Board) • IC702 is faulty. (C Board) • Screen (G2) is improperly adjusted. **	• No raster is generated. • CRT Cathode current detection reference pulse output is small.
Zero Cross	9 times	• No zero cross pulses on pin 45 IC1001. (A Board)	• Power does not come on.
9V Check	10 times	• Relay failed (RY600)	• Power does not come on.

* If a +B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously. The symptom that is diagnosed first by the microcontroller is displayed on the screen.

** Refer to Screen (G2) Adjustments in Section 2-4 of this manual

Display of Standby/Timer LED Flash Count





Diagnostic Item	Flash Count*
+B Overcurrent	2 times
+B Overvoltage	3 times
V-STOP	4 times
IK (AKB)	5 times
Zero Cross	9 times
9V	10 times

*One flash count is not used for self-diagnostic.

Stopping the Standby/Timer LED Flash
Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER LAMP from flashing.

Self-Diagnostic Screen Display
For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurrences of failure on the screen for confirmation.

To Bring Up Screen Test
In standby mode, press buttons on the Remote Commander sequentially, in rapid succession, as shown below:

DISPLAY ➡ Channel 5 ➡ Sound volume - ➡ Power ON.

SELF DIAGNOSIS	
2: +B OCP	0
3: +B OVP	0
4: VSTOP	0
5: AKB	1
9: ZCD	0
10: 9VON	0
101: WDT	0
Serial: xxxxxxx	
Model: xxxxxxx	

Numeral “0” means that no fault was detected.
Numeral “1” means a fault was detected one time only.

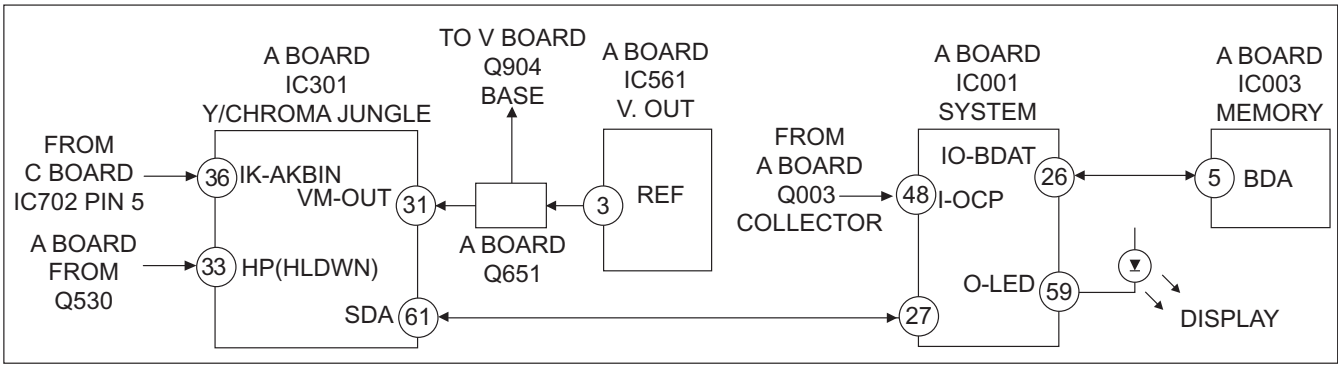
Handling of Self-Diagnostic Screen Display
Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to “0”.
Unless the result display is cleared to “0”, the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

Clearing the Result Display
To clear the result display to “0”, press buttons on the Remote Commander sequentially when the diagnostic screen is displayed, as shown below:

Channel 8 ➡ ENTER

Quitting the Self-Diagnostic Screen
To quit the entire self-diagnostic screen, turn off the power switch on the Remote Commander or the main unit.

Self-Diagnostic Circuit



+B overcurrent (OCP)
Occurs when an overcurrent on the +B (135V) line is detected by pin 48 of IC001 (A Board). If the voltage of pin 48 of IC001 (A Board) is less than 1V when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.

+B overvoltage (OVP)
Occurs when a high is felt onpin 2 of IC501 (A Board).

I-PROT
Occurs when an absence of the vertical deflection pulse is detected by pin 31 of IC301 (A Board). Power supply will shut down when waveform interval exceeds 2 seconds.

IK (AKB)
If the RGB levels* do not balance within 2 seconds after the power is turned on, this error will be detected by IC301 (A Board). TV will stay on, but there will be no picture.

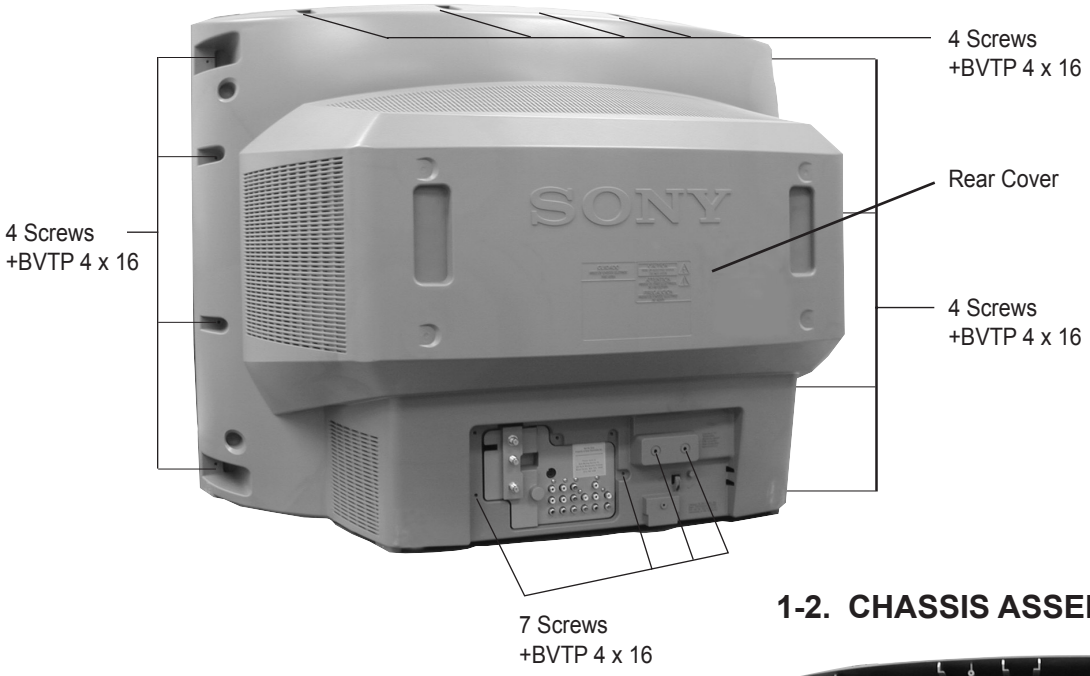
*(Refers to the RGB levels of the AKB detection Ref pulse that detects 1K).

Zero Cross
Check Q691 collector (GK Board) 7.5V STBY goes to 0V when the set is turned on.

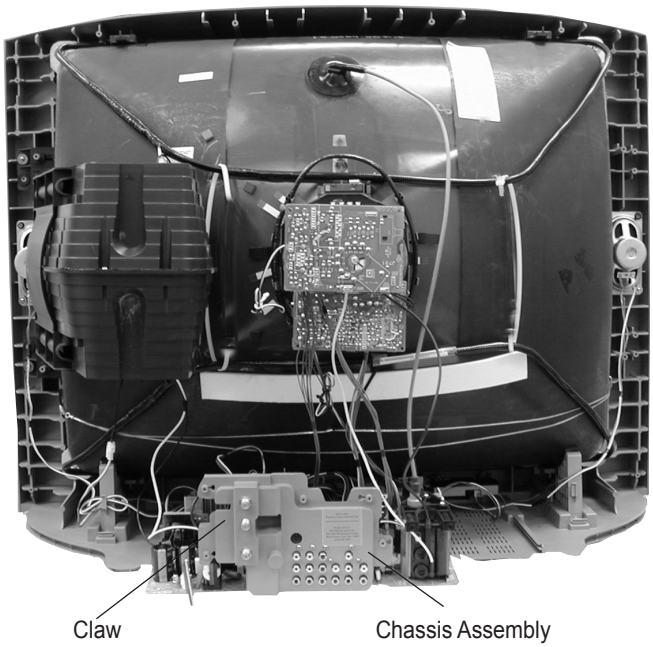
9V Check
Check Q691 collector (GK Board) 7.5V STBY goes to 0V when the set is turned on.

SECTION 1: DISASSEMBLY

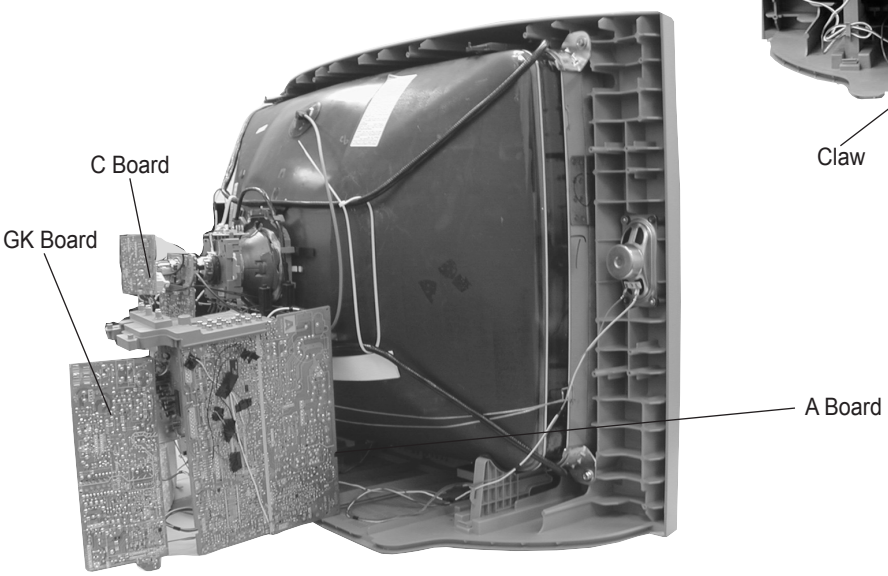
1-1. REAR COVER REMOVAL



1-2. CHASSIS ASSEMBLY REMOVAL

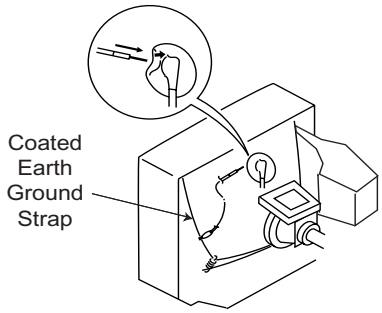


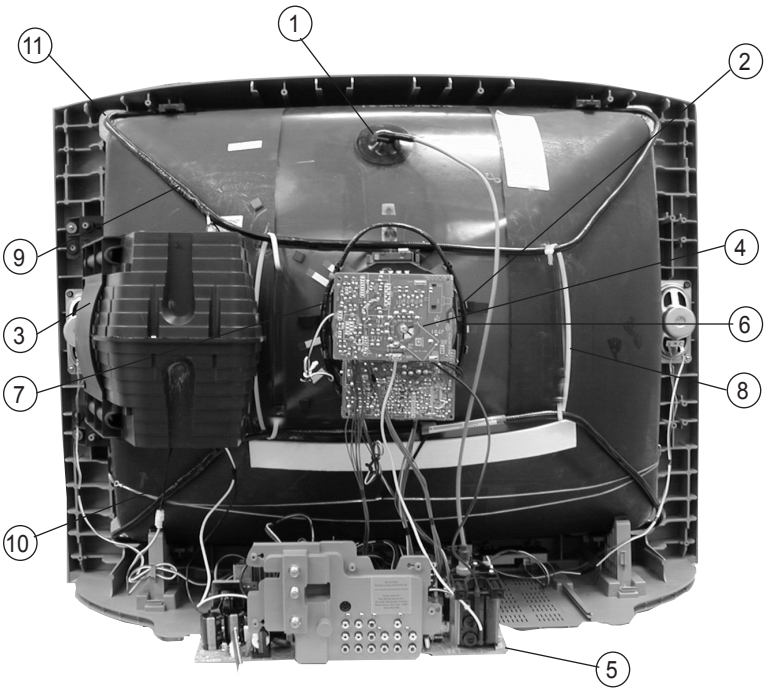
1-3. SERVICE POSITION



1-4. PICTURE TUBE REMOVAL

WARNING: BEFORE REMOVING THE ANODE CAP
High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT before attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.





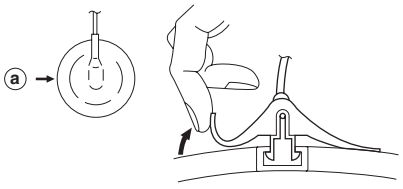
1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the deflection yoke, neck assembly, degaussing coils and CRT grounding strap.
3. Remove the Sub-Woofer Assemblies.
4. Remove the C Board from the CRT.
5. Remove the chassis assembly.
6. Loosen the neck assembly fixing screw and remove.
7. Loosen the deflection yoke fixing screw and remove.
8. Place the set with the CRT face down on a cushion and remove the degaussing coil holders.
9. Remove the degaussing coils.
10. Remove the CRT grounding strap and spring tension devices.
11. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT [Take care not to handle the CRT by the neck].

ANODE CAP REMOVAL PROCEDURE

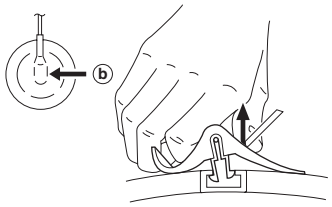
WARNING: High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT before attempting to remove the anode cap. After removing the anode cap, short circuit to either the metal chassis, CRT shield, or carbon painted on the CRT.

NOTE: After removing the anode cap, short circuit the anode of the picture tube and the anode cap to either the metal chassis, CRT shield or carbon painted on the CRT.

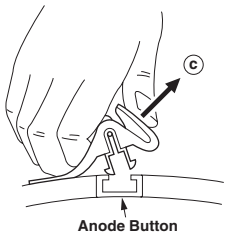
REMOVAL PROCEDURES



Turn up one side of the rubber cap in the direction indicated by arrow a .



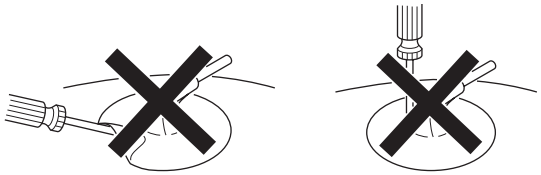
Use your thumb to pull the rubber cap firmly in the direction indicated by arrow b .



When one side of the rubber cap separates from the anode button, the anode cap can be removed by turning the rubber cap and pulling it in the direction of arrow c .

HOW TO HANDLE AN ANODE CAP

1. Do not use sharp objects which may cause damage to the surface of the anode cap.
2. To avoid damaging the anode cap, do not squeeze the rubber covering too hard. A material fitting called a shatter-hook terminal is built into the rubber.
3. Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.



SECTION 2: SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed. These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch should be set as follows unless otherwise noted:

PICTURE CONTROL: normal
BRIGHTNESS CONTROL: normal

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2)/White Balance

Test Equipment Required:

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter
5. Oscilloscope
6. CRT Analyzer

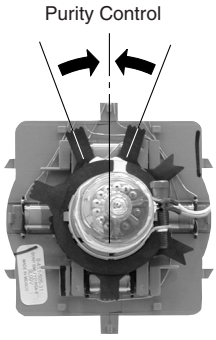
2-1. BEAM LANDING

Preparation:

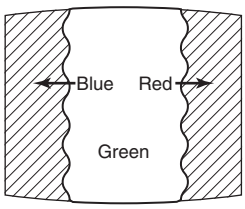
- Input a white pattern signal.
- Face the picture tube in an East or West direction to reduce the influence of geomagnetism.

NOTE: Do not use the hand degausser; it magnetizes the CRT .

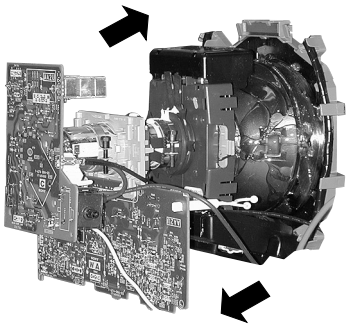
1. Input white pattern from pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown below:



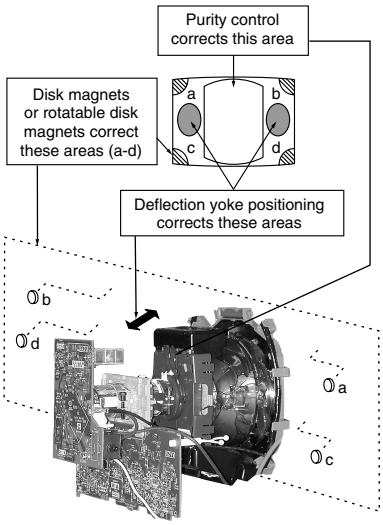
3. Input green pattern from pattern generator.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



5. Move the deflection yoke forward, and adjust so that the entire screen becomes green.



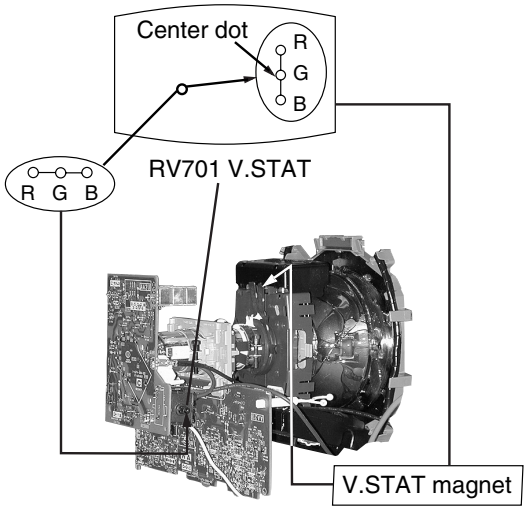
6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. When landing at the corner is not right, adjust by using the disk magnets.



2-2. CONVERGENCE

Preparation:

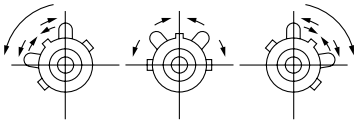
- Perform FOCUS, V. LIN and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Input dot pattern.



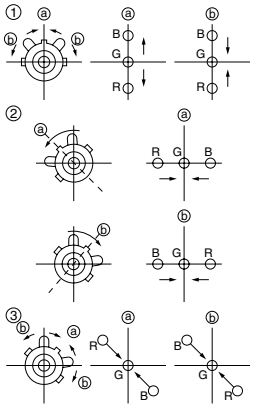
VERTICAL AND HORIZONTAL STATIC CONVERGENCE

1. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen (Vertical movement).

   Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



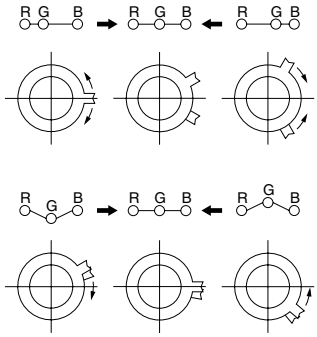
2. When the V. STAT magnet is moved in the direction of arrow a and b, red, green, and blue dots move as shown below:



OPERATION OF BMC (HEXAPOLE) MAGNET

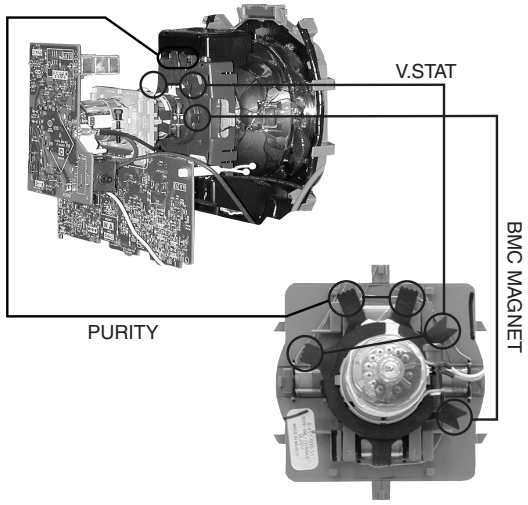
The respective dot positions resulting from moving each magnet interact, so perform adjustment while tracking.

1 Use the V.STAT tabs to adjust the red, green, and blue dots so they line up at the center of the screen (move the dots in a horizontal direction).



Y SEPARATION AXIS CORRECTION MAGNET ADJUSTMENT

1. Input cross-hatch pattern, adjust PICTURE to minimum and BRIGHTNESS to normal.
2. Adjust the deflection yoke upright so it touches the CRT.
3. Adjust so that the Y separation axis correction magnet on the neck assembly is symmetrical from top to bottom (open state).

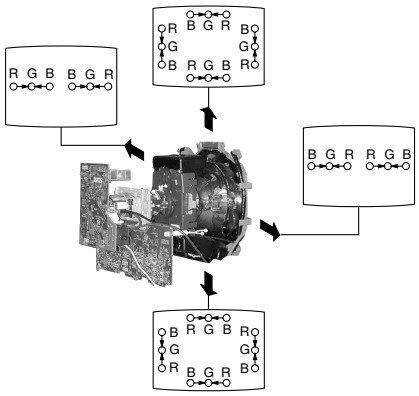


4. Return the deflection yoke to its original position.

DYNAMIC CONVERGENCE ADJUSTMENT

Before starting, perform Vertical and Horizontal Static Convergence Adjustment.

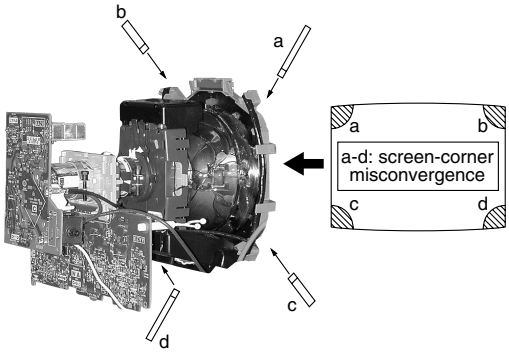
1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below:



4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

SCREEN-CORNER CONVERGENCE

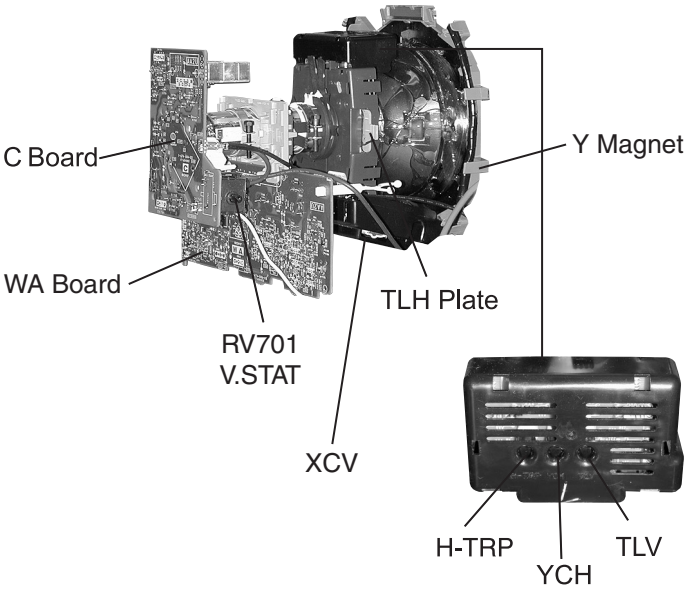
1. Affix a permalloy assembly corresponding to the misconverged areas:

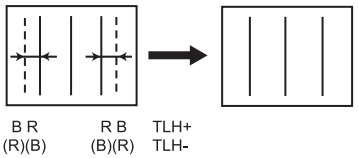


TLH PLATE ADJUSTMENT

Preparation:

- Input crosshatch pattern.
- Adjust Picture Quality to standard, Picture and Brightness to 50%, and Other to standard.
- Adjust the Horizontal Convergence of red and blue dots by tilting the TLH plate on the deflection yoke.



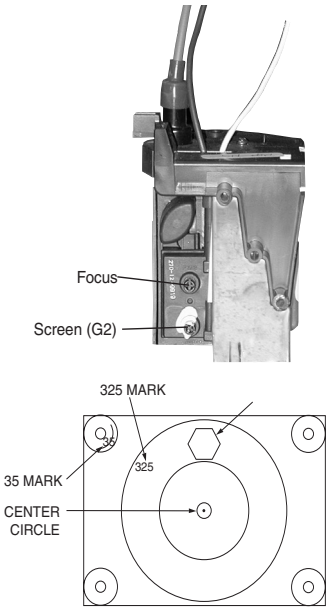


1. Adjust XCV core to balance X axis.
2. Adjust YCH VR to balance Y axis.
3. Adjust vertical red and blue convergence with V.TILT (TLV VR.) Perform adjustments while tracking items 1 and 2.
4. Adjust Y MAGNET to correct V.BOW Geometry Distortion.
5. Adjust H-TRP to correct H.Trapezoid Geometry Distortion.

After adjusting items 4 and 5, confirm overall geometry again.

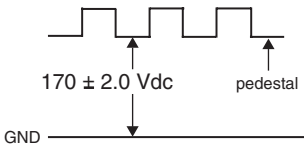
2-3. FOCUS

1. Input monoscope signal.
2. Set user controls to normal.
3. Set video mode to STANDARD.
4. Set the PICTURE to maximum.
5. Adjust at 325 Mark for best center/corner focus balance.
6. Receive an entire white signal. Make sure Magenta Ring is at an acceptable level.



2-4. SCREEN (G2)

1. Input dot pattern from the pattern generator.
2. Set the user controls to NORMAL.
3. Attach the G2-Jig to the C Board.
4. Adjust RCUT, GCUT, BCUT, and SBRT in service mode with an oscilloscope so that voltages on the red, green, and blue cathodes are 170 ± 2.0Vdc.
5. Observe the screen and adjust SCREEN (G2) VR to obtain the faintly visible background of dot signal.
6. Push the TEST + JUMP (+ Channel) to cut off the signal. The screen should be bright or dark. Brightness of raster must be increased when adjusting.
7. Adjust screen VR until the screen is slightly cut off, or scarcely lights up. A signal cannot be seen when the brightness of the raster is high.
8. Push the JUMP again to release the cut off.



2-5. WHITE BALANCE ADJUSTMENTS

Adj.	NO.	Disp.	Item	All Models
VID_ADJ	0	RDRV	Red Drive	41
VID_ADJ	1	GDRV	Green Drive	32
VID_ADJ	2	BDRV	Blue Drive	29
VID_ADJ	3	RCUT	Red Cut-off	31
VID_ADJ	4	GCUT	Green Cut-off	14
VID_ADJ	5	BCUT	Blue Cut-off	17
VP2	4	SBRT	Sub Bright	16

1. Set program palette to STANDARD and push RESET.
2. Input an entire white signal.
3. Set to Service Adjustment Mode.
4. Set the PICTURE and BRIGHT to minimum.
5. Adjust with SBRT if necessary.
6. Set RCUT to “14”.
7. Select GCUT and BCUT with 3 and 5 .
8. Adjust by pressing 1 and 4 for the best white balance.
9. Set the PICTURE and BRIGHT to maximum.
10. Select GDRV and BDRV with and .
11. Adjust with 3 and 6 for the best white balance.
12. Write into the memory by pressing 3 then 5.
13. Repeat steps 1-12 for GDR4, BDR4, GCU4 and BCU4 using Video 4 input.

* Use values from Sub Contrast Adjustments

White balance should be adjusted after Sub Contrast because RDRV is also used in Sub Contrast Adjustment. (See page 22).

SECTION 3: SAFETY RELATED ADJUSTMENTS

3-1. ⋈ R530, R531 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

Always perform the following adjustments when replacing the following components marked with a ◪ mark on the schematic diagram:

Part Replaced (◪)	Adjustment (⋈)
A BOARD: R550, T503, T504, D519, IC501, R533, D521, R532, D520, C531, R529, R530, R531, C532	**HV HOLD DOWN** R530, R531

PREPARATION BEFORE CONFIRMATION

1. Using a Variac, apply AC input voltage: 120+2.0 VAC.
2. Turn the POWER switch ON.
3. Input a white signal and set the PICTURE and BRIGHT controls to maximum.
4. Confirm that the voltage of more than 23.0 VDC appears between TP85 and ground on the A Board.

HOLD-DOWN OPERATION CONFIRMATION

1. Connect the current meter between Pin 11 of the FBT (T503) and the PWB land where Pin 11 would normally attach. (See Figure 1).
2. Input a dot signal and set PICTURE and BRIGHTNESS to minimum: IABL = 2175 + 100/ -325 µA.
3. Confirm the voltage of A Board TP91 is 135 ± 1.5 VDC.
4. Connect the digital voltmeter and the DC power supply to TP85 and ground. (See Figure 1 above).
5. Increase the DC power voltage gradually until the picture blanks out.
6. Turn DC power source off immediately.
7. Read the digital voltmeter indication (standard = 27.24 + 0.0/ - 0.1 VDC).
8. Input a white signal and set PICTURE and BRIGHTNESS to maximum: IABL = 2175 + 100/ -325 µA.
9. Repeat steps 4 to 7.

HOLD-DOWN READJUSTMENT

If the setting indicated in Step 2 of Hold-Down Operation Confirmation cannot be met, readjustment should be performed by altering the resistance value of R530, R531 component marked with ⋈.

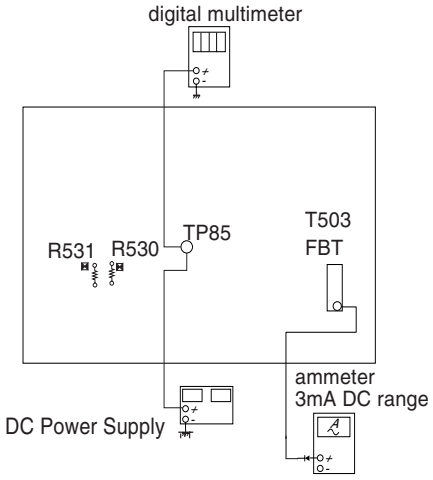


Figure 1

3-2. B+ VOLTAGE CONFIRMATION AND ADJUSTMENT

Always perform the following adjustments when replacing the following components, which are marked with ◪ on the schematic diagram on the GK Board:

GK BOARD: IC600, PH602

1. Using a Variac, apply AC input voltage: 130 + 2.0/-0.0 VAC
2. Input a monoscope signal.
3. Set the PICTURE control and the BRIGHT control to minimum.
4. Confirm the voltage on A Board between TP23 and ground is less than 136.5 VDC.
5. If step 4 is not satisfied, replace R530 and R531 on A Board and repeat the above steps.

SECTION 4: CIRCUIT ADJUSTMENTS

ELECTRICAL ADJUSTMENTS BY REMOTE COMMANDER

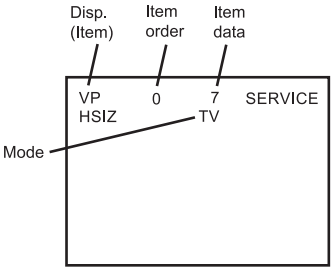
Use the Remote Commander (RM-Y181, RM-Y182) to perform the circuit adjustments in this section.

Test Equipment Required: 1. Pattern generator 2. Frequency counter 3. Digital multimeter 4. Audio oscillator

4-1. SETTING SERVICE ADJUSTMENT MODE

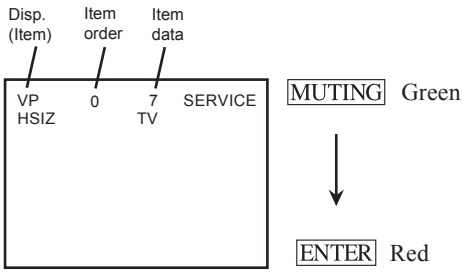
1. Standby mode (Power off).
2. Press the following buttons on the remote commander within a second of each other:
   DISPLAY → Channel 5 → Sound Volume + → Power

SERVICE ADJUSTMENT MODE IN

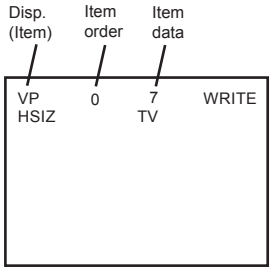


3. The CRT displays the item being adjusted.
4. Press 1 or 2 on the Remote Commander to select the item.
5. Press 3 or 6 on the Remote Commander to change the data.
6. Press MUTING then ENTER to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



7. Press then on the Remote Commander to initialize.

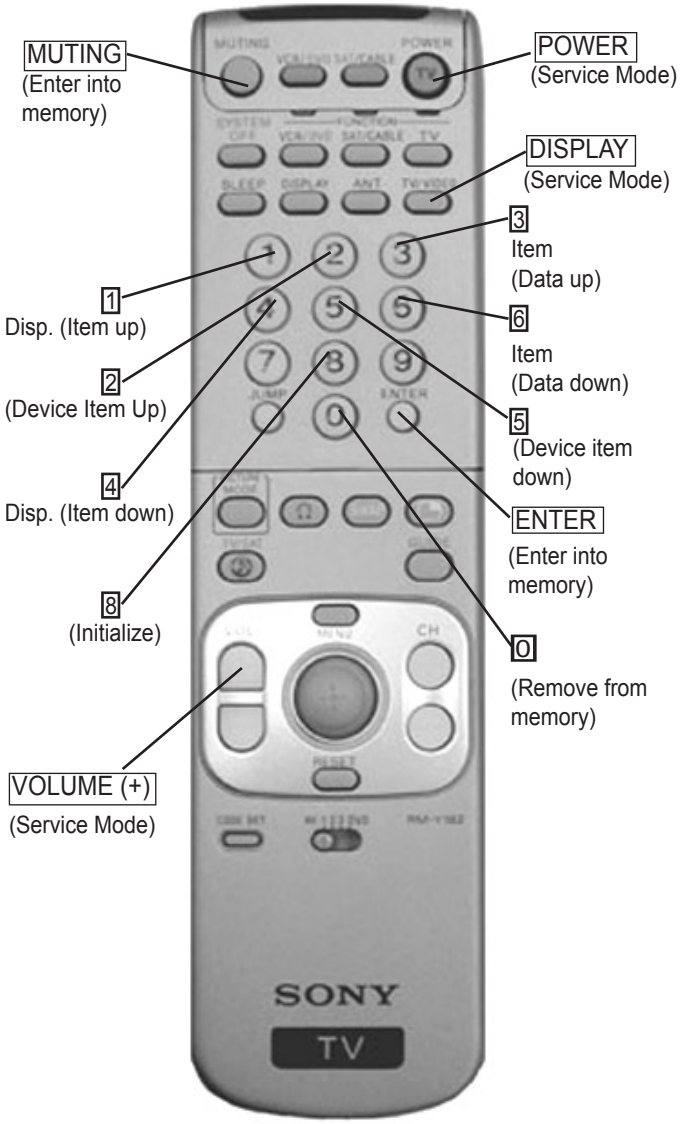


8. DO NOT turn off set until SERVICE appears.

4-2. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, pull out the plug from the AC outlet, then replace the plug in the AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again to confirm they were adjusted.

4-3. REMOTE ADJUSTMENT BUTTONS AND INDICATORS



RM-Y182

4-4. SERVICE DATA LISTS

Non-Volatile Memory (NVM) Reference for BA5D Service List

Service Group	No.	Name	Description	Bit Mask	Common		
					Slave Addr	Sub Addr	Init Data
VERSION	0	VER	Microprocessor version information	11111111	=	=	0

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common				NTSC / PAL-M			PAL-N		
						Slave Addr	Sub Addr	Fix Data	Var Data	Slave Addr	Sub Addr	Data	Slave Addr	Sub Addr	Data
VP1	0	HSIZ	Var	H SIZE (11/ 2-7)	11111100					A4	A8		A4	B4	
	1	HPOS	Var	HPOS (12 / 2-7)	11111100					A4	A9		A4	B5	
	2	VBOW	Var	AFC BOW (16 / 4-7)	11110000					A4	AE		A4	BA	
	3	VANG	Var	AFC ANGLE (16 / 0-3)	00001111					A4	AE		A4	BA	
	4	VTRP	Var	TRAPEZIUM (20 / 3-7)	11111000					A4	AF		A4	BB	
	5	HTRP	Var	H. TRAPEZOID (15 / 4-7)	11110000					A4	AD		A4	B9	
	6	TROT	Fix	TILT ROTATION (0-63)	11111100					A4	A4		A4	B0	
	7	PAMP	Var	PIN AMP (13 / 2-7)	11111100					A4	AA		A4	B6	
	8	UPIN	Var	UP-CPIN (14 / 2-7)	11111100					A4	AB		A4	B7	
	9	LPIN	Var	LO-CPIN (1C / 2-7)	11111100					A4	AC		A4	B8	
	10	VSIZ	Var	V SIZE (0E / 2-7)	11111100					A4	A5		A4	B1	
	11	VPOS	Var	V POSITION (0E / 2-7)	11111100					A4	A6		A4	B2	
	12	VLIN	Var	V LINEARITY (10 / 0-3)	00001111					A4	A7		A4	B3	
	13	SCOR	Var	S CORRECTION (10 / 4-7)	11110000					A4	A7		A4	B3	
	14	VZOM	Fix	16:9 CRT Z Mode on/off	10000000	A4	85								
	15	EHT	Fix	Vertical High-Voltage Compensation	00001111	A4	80								
	16	ASP	Fix	Aspect Ratio control (4:3 Mode)	11111100	A4	FB	47							
	17	ASP1	Fix	Aspect Ratio control (16:9 Mode)	11111100	A4	FC	47							
	18	SCRL	Fix	16:9 CRT Z Mode Trans. Scroll	00111111	A4	86								
	19	HBLK	Fix	Horizontal Blanking on/off	00010000	A4	85								
	20	LBLK	Fix	Left Blanking Adjustment	11110000	A4	80								
	21	RBLK	Fix	Rigth Blanking Adjustment	00001111	A4	81								
	22	HDW	Fix	Horizontal Drive Pulse Width	00001000	A4	85								
	23	EWDC	Fix	"Parabola" EW, D.C. Adjustment	00000100	A4	88								
	24	LVLN	Fix	Lower Screen BTM Vertical Line Adj.	11110000	A4	81								
	25	UVLN	Fix	Uppe Screen BTM Vertical Line Adj.	00001111	A4	82								
	26	INTL	Fix	INTERLACE	00110000	A4	84								
	27	HOSC	Fix	Horizontal VCO Oscillation Freq.	11110000	A4	82								
	28	VSS	Fix	Vertical Sync Slice Level	11000000	A4	84								
	29	HSS	Fix	Horizontal Sync Slice Level	00001000	A4	88								
	30	HMSK	Fix	For Macro Vision	00010000	A4	88								
	31	VTMS	Fix	Select Signal VTIM Pin	01100000	A4	85								
	32	TCMD	Fix	Vertical Count Down Mode Switching (for TV)	00000011	A4	8C								
	33	VCMD	Fix	Vertical Count Down Mode Switching (for Video)	00000011	A4	8D								
	34	AFC	Fix	AFC Loop Gain Switching	11000000	A4	86								
	35	FIFR	Fix	Field Frequency	11000000	A4	87								
	36	VBLK	Fix	VBLKW	00000011	A4	88								
	37	HTSW	Fix	H-Trap Switch : NEW	00100000	A4	88								

SERVICE DATA LISTS

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common				NTSC			PAL-M			PAL-N		
						Slave Addr	Sub Addr	Fix Data	Var Data	Slave Addr	Sub Addr	Data	Slave Addr	Sub Addr	Data	Slave Addr	Sub Addr	Data
VP2	0	REFP	Fix	REFP	01000000	A4	88	0										
	1	JPSW	Fix	Jump SW	00000001	=	=											
	2	SHUE	Var	Sub HUE adjustment	11110000	A4	8C											
	3	SCOL	Var	Sub COLOR adjustment	00001111					A4	8E		A4	90	7	A4	92	
	4	SBRT	Var	Sub BRIGHTNESS adjustment	00011111	A4	87											
	5	AXPL	Fix	Axis PAL	00000001	A4	89	0										
	6	AXNT	Fix	Axis NTSC	00000010	A4	89	1										
	7	CBPF	Fix	Chroma BPF on/off	00000100	A4	89	1										
	8	CTRP	Fix	Y TRAP FILTER on/off	00000001	=	=											
	9	COFF	Fix	Color On/off	00000010	=	=											
	10	KOFF	Fix	Set Color Killer	00100000	A4	89	0										
	11	SSHP	Fix	Sub SHARPNESS	11110000	A4	83											
	12	TSPF	Fix	SHARPNESS Circuit Fo (for TV)	00001100	A4	8C											
	13	VSPF	Fix	SHARPNESS Circuit Fo (for Video)	00001100	A4	8D											
	14	PREL	Fix	Pre-Shoot/ Over-Shoot	01000000	A4	89	1										
	15	ABLM	Fix	ABL Mode Switch	10000000	A4	89	1										
	16	VTH	Fix	ABL CD VHT Switching	00000001	=	=											
	17	YDEL	Fix	Y Delay Time Control	00001111	A4	84											
	18	NCOL	Fix	No Color ID	00000001	A4	85											
	19	FSC	Fix	FSC Out on/off	00000010	A4	85	1										
	20	KID	Fix	Killer ID Control on/off	00000100	A4	85	0										

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common				NTSC			PAL-M			PAL-N		
						Slave Addr	Sub Addr	Fix Data	Var Data	Slave Addr	Sub Addr	Data	Slave Addr	Sub Addr	Data	Slave Addr	Sub Addr	Data
VID_ADJ	0	RDRV	var	R DRIVE (0A / 7-2)	11111100	A4	9E	41										
	1	GDRV	Var	G DRIVE (0B / 7-2)	11111100	A4	9F											
	2	BDRV	Var	B DRIVE (0C / 7-2)	11111100	A4	A0											
	3	RCUT	Var	R CUT OFF (07 / 7-2)	11111100	A4	A1	31										
	4	GCUT	Var	G CUT OFF (08 / 7-2)	11111100	A4	A2											
	5	BCUT	Var	B CUT OFF (09 / 7-2)	11111100	A4	A3											
	6	SCON	Var	Sub Contrast adjusment	00001111	A4	8A											
	7	CHUE	Var	Sub HUE adjustment for TV	00011111	A4	94	16										
	8	CCOL	Var	Sub COLOR adjustment for TV	00011111					A4	8F	18	A4	91	18	A4	93	23
	9	UOFS	Var	YUV U offset	00001111	A4	8B											
	10	VOFS	Var	YUV V offset	11110000	A4	8B											
	11	RON	Fix	R ON (01 / 3)	00001000	=	=											
	12	GON	Fix	G ON (01 / 2)	00000100	=	=											
	13	BON	Fix	B ON (01 / 1)	00000010	=	=											
	14	HUEV	Var	Sub HUE adjustment for Video	11110000	A4	8D											
	15	COLV	Var	Sub COLOR adjustment for Video	11110000					A4	8E		A4	90		A4	92	

SERVICE DATA LISTS

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common		
						Slave Addr	Sub Addr	Fix Data
COL_TMP	0	GDOF	Fix	G DRIVE Offset	11111000	A4	9A	4
	1	BDOF	Fix	B DRIVE Offset	11111000	A4	9B	15
	2	GCOF	Fix	G CUT Offset	11111000	A4	9C	7
	3	BCOF	Fix	B CUT Offset	11111000	A4	9D	14
	4	DCOL	Fix	Dinamic Color	00000010	=	=	

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common		
						Slave Addr	Sub Addr	Fix Data
PIC_IMP	0	BLAD	Fix	Black area detect (01 / 6-7)	11000000	A4	09	0
	1	SRTS	Fix	SRT level (01 / 4-5)	00110000	A4	09	3
	2	YNR	Fix	YNR(01 / 2)	00000100	A4	09	1
	3	GIRE	Fix	Gamma correction(01 / 0-1)	00000011	A4	09	3
	4	DAC1	Fix	DAC1(02 / 7)	10000000	A4	0A	0
	5	DAC2	Fix	DAC2(02 / 6)	01000000	A4	0A	0
	6	VMGA	Fix	VM on 1226 (02/5-4)	00110000	A4	0A	0
	7	GCUR	Fix	Gamma curve(02 / 2)	00000100	A4	0A	1
	8	BLKC	Fix	Black Compensation (02 / 1)	00000010	A4	0A	1
	9	TEST	Fix	TEST(03 / 6-7)	11000000	A4	0B	3
	10	RS	Fix	RS (03 / 3-5)	00111000	A4	0B	0
	11	RTC	Fix	RTC(03 / 0-2)	00000111	A4	0B	2
	12	APAC	Fix	APAC	10000000	A4	0B	0
	13	SRTH	Fix	SRT bit for Dynablack = High	10000000	A4	5C	1
	14	SRTL	Fix	SRT bit for Dynablack = Low	10000000	A4	5D	1
	15	SRTO	Fix	SRT bit for Dynablack = Off	10000000	A4	5E	0
	16	SHPH	Fix	Sharpness level for Dynablack = High	01111111	A4	5C	54
	17	SHPL	Fix	Sharpness level for Dynablack = Low	01111111	A4	5D	43
	18	SHPO	Fix	Sharpness level for Dynablack = Off	01111111	A4	5E	0

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Palette = VIVID			Palette = STANDARD			Palette = MOVIE			Palette = SPORTS		
						Slave Addr	Sub Addr	Fix Data	Slave Addr	Sub Addr	Fix Data	Slave Addr	Sub Addr	Fix Data	Slave Addr	Sub Addr	Fix Data
PALETTE	0	VPIC	Fix	User picture setting 0:min, 63: max	11111100	A4	5F	63	A4	65	50	A4	6B	38	A4	71	63
	1	VBRT	Fix	User brightness setting 0:min, 63: max	11111100	A4	60	31	A4	66	31	A4	6C	31	A4	72	31
	2	VCOL	Fix	User color setting 0:min, 63: max	11111100	A4	61	35	A4	67	31	A4	6D	31	A4	73	40
	3	VSHP	Fix	User sharpness setting 0:min, 63: max	11111100	A4	62	31	A4	68	31	A4	6E	34	A4	74	31
	4	VVM	Fix	0: OFF, 1: Low, 2: High, 3: N/A	00000011	A4	5F	2	A4	65	1	A4	6B	0	A4	71	2
	5	VTRI	Fix	0: Cool, 1: Nutral, 2: Warm, 3: N/A	00000011	A4	60	0	A4	66	1	A4	6C	2	A4	72	0
	6	VGMA	Fix	0: OFF, 1: Low, 2: Mid, 3: Max	00000011	A4	63	2	A4	69	2	A4	6F	2	A4	75	2
	7	VNRM	Fix	0: 3D, 1: 2D	00000010	A4	61	0	A4	67	0	A4	6D	0	A4	73	0
	8	VYDC	Fix	DC Transmission Ratio 0,1: 100%, 2: 92%, 3: 85	00000011	A4	62	3	A4	68	3	A4	6E	2	A4	74	3
	9	VVEN	Fix	Vertoca; Enhancement	00011100	A4	63	5	A4	69	3	A4	6F	3	A4	75	5
	10	VHK0	Fix	Horizontal Peaking 0:On, 1:Off	00000001	A4	61	0	A4	67	0	A4	6D	0	A4	73	0
	11	VDBK	Fix	User Dynablack 0: OFF, 1: Low, 2: High, 3: N/A	01100000	A4	63	2	A4	69	1	A4	6F	1	A4	75	1
	12	VYPL	Fix	Y-Peaking Limit	00000011	A4	64	1	A4	6A	0	A4	70	0	A4	76	1

SERVICE DATA LISTS

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common		
						Slave Addr	Sub Addr	Fix Data
3L_COMB	0	FUNN	Fix	Function (0 / 7-6) for NTSC	11000000	A4	3C	3
	1	FUNP	Fix	Function (0 / 7-6) for PAL-N, PAL-M	00110000	A5	3C	3
	2	DRNG	Fix	DRANG (0 / 2)	00000100	A4	3C	0
	3	YCSM	Fix	Y/C Sep Mode (0 / 1-0)	00000011	A4	3C	0
	4	CNRK	Fix	CNRK (1 / 7-6)	11000000	A4	3D	1
	5	CNRL	Fix	CNR Lim (1 / 5-4)	00110000	A4	3D	1
	6	CLPF	Fix	C-LPF(1 / 3)	00001000	A4	3D	1
	7	SLPF	Fix	SelC-LPF(1 / 2)	00000100	A4	3D	0
	8	MODE	Fix	Mode1 (1 / 1)	00000010	A4	3D	0
	9	YPG	Fix	Y - Peaking Gain (2 / 7-6)	11000000	A4	3E	3
	10	PDSC	Fix	Pds. Clip (2 / 3)	00001000	A4	3E	0
	11	YLPF	Fix	Y-LPF(2 / 2)	00000100	A4	3E	1
	12	VENL	Fix	V-Emph N.L (3 / 4-2)	00011100	A4	3F	4
	13	VEC	Fix	V - Emph Core (3 / 1-0)	00000011	A4	3F	3

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common		
						Slave Addr	Sub Addr	Fix Data
3D_COMB	0	COUT	Fix	COUTS(00 / 2-3)	00001100	A4	21	3
	1	YAPS	Fix	YAPS(00 / 0-1)	00000011	A4	21	1
	2	NSDS	Fix	NSDS(01 / 4-5)	00110000	A4	22	0
	3	MSS	Fix	MSS(01 / 2-3)	00001100	A4	22	0
	4	KILS	Fix	KILS (01 / 1-0)	00000011	A4	22	1
	5	DYC	Fix	DYCOS (02 / 7-6)	11000000	A4	23	2
	6	EXAD	Fix	EXADINS(02 / 5)	00100000	A4	23	0
	7	EXCS	Fix	EXCSS(02 / 1- 0)	00000011	A4	23	1
	8	CPP	Fix	CPP(03 / 6)	01000000	A4	24	0
	9	HDP	Fix	HDP(03 / 3-5)	00111000	A4	24	6
	10	CDL	Fix	CDL(03 / 0-2)	00000111	A4	24	6
	11	DYCO	Fix	DYCOR(04 / 4-7)	11110000	A4	25	2
	12	DYGA	Fix	DYGAIN(04 / 0-3)	00001111	A4	25	10
	13	DCCO	Fix	DCCOR(05 / 4-7)	11110000	A4	26	2
	14	DCGA	Fix	DCGAIN(05 / 0-3)	00001111	A4	26	9
	15	YNRL	Fix	YNRLIM(06 / 4-5)	00110000	A4	27	1
	16	CNRL	Fix	CNRLIM(06 / 0-1)	00000011	A4	27	1
	17	ID1O	Fix	ID1ON(07 / 7)	10000000	A4	28	0
	18	ID1W	Fix	ID1W0A1(07 / 6)	01000000	A4	28	0
	19	ID1N	Fix	ID1W0A2(07 / 5)	00100000	A4	28	0
	20	WSC	Fix	WSC(08 / 6-7)	11000000	A4	29	1
	21	VTRH	Fix	VTRH(08 / 4-5)	00110000	A4	29	1
	22	VTRR	Fix	VTRR(08 / 2-3)	00001100	A4	29	1
	23	LDSR	Fix	LDSR(08 / 0-1)	00000011	A4	29	2
	24	WSS	Fix	WSS (09 / 7)	10000000	A4	2A	0
	25	ID1E	Fix	ID1ECON (09 / 6)	01000000	A4	2A	1
	26	TT	Fix	TT (09 / 4 -5)	00110000	A4	2A	0
	27	FELC	Fix	FELCHK (09 / 3)	00001000	A4	2A	1
	28	TH	Fix	TH (09 / 1 -2)	00000110	A4	2A	0
	29	VAPG	Fix	VAPGAIN(0A / 5-7)	11100000	A4	2B	3
	30	VAPI	Fix	VAPINV(0A / 0-4)	00011111	A4	2B	25

SERVICE DATA LISTS

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common		
						Slave Addr	Sub Addr	Fix Data
3D_COMB	31	YPFT	Fix	YPFT(0B / 4-5)	00110000	A4	2C	3
	32	YPFG	Fix	YPFG(0B / 0-3)	00001111	A4	2C	8
	33	V1PS	Fix	V1PS(0C / 6-7)	11000000	A4	2D	3
	34	VEGS	Fix	VEGS(0C / 4-5)	00110000	A4	2D	2
	35	CC3N	Fix	CC3N(0C / 3)	00001000	A4	2D	0
	36	C0HS	Fix	C0HS(0C / 2)	00000100	A4	2D	0
	37	SEL2	Fix	SELD2FH(0C / 0)	00000001	A4	2D	1
	38	SEL1	Fix	SELD1FL(0D / 5)	00100000	A4	2E	1
	39	YHCO	Fix	YHCOR(10 / 6-7)	11000000	A4	31	0
	40	YHCG	Fix	YHCGAIN(10 / 5)	00100000	A4	31	1
	41	OVST	Fix	+OVST(10 / 3)	00001000	A4	31	0
	42	CSHD	Fix	CSHDT(10 / 2)	00000100	A4	31	0
	43	KCTT	Fix	KCTT(10 / 0-1)	00000011	A4	31	0
	44	SHT	Fix	SHT(11 / 7-6)	11000000	A4	32	0
	45	VCT	Fix	VCT(11/ 5)	00100000	A4	32	0
	46	CGAT	Fix	CLKGAT (11 / 4)	00010000	A4	32	0
	47	CG2D	Fix	CLK2D (11 / 3)	00001000	A4	32	1
	48	CGGT	Fix	CLKGGT (11 / 2)	00000100	A4	32	0
	49	CGEB	Fix	CLKGEB (11 / 1)	00000010	A4	32	0
	50	CGT	Fix	CLKGT (11 / 0)	00000001	A4	32	0
	51	HPLL	Fix	HPLLFS(12 / 7)	10000000	A4	33	1
	52	BPLL	Fix	BPLLFS (12 / 6)	01000000	A4	33	0
	53	FSCF	Fix	FSCFG(12 /5)	00100000	A4	33	0
	54	PLLF	Fix	PLLFG(12 / 4)	00010000	A4	33	1
	55	KILR	Fix	KILR(12 / 0-3)	00001111	A4	33	3
	56	HSSL	Fix	HSSL(13 / 4-7)	11110000	A4	34	12
	57	VSSL	Fix	VSSL(13 / 0-3)	00001111	A4	34	8
	58	BGPS	Fix	BGPS(14 / 4-7)	11110000	A4	35	4
	59	BGPW	Fix	BGPW(14 / 0-3)	00001111	A4	35	10
	60	ADCL	Fix	ADCLKS(15 / 6-7)	11000000	A4	36	3
	61	NSDW	Fix	NSDSW(15 / 4)	00010000	A4	36	1
	62	HIZE	Fix	HIZEN (16 / 4)	00010000	A4	37	0
	63	HCNT	Fix	HCNTFSYN (17 / 6)	01000000	A4	38	0

SERVICE DATA LISTS

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common		
						Slave Addr	Sub Addr	Fix Data
PIP	0	PFRN	Fix	VCXO oscilation	00000010	A4	40	0
	1	PRVS	Fix	HD/VD input synchronous mode selection	00000001	A4	40	1
	2	PCON	Fix	PIP sub contrast control	01111111	A4	41	97
	3	PUCO	Fix	PIP U level control	01111111	A4	42	5
	4	PVCO	Fix	PIP V level control	01111111	A4	43	17
	5	PHUE	Fix	PIP sub hue control	00111111	A4	57	12
	6	PKIL	Fix	Color killer	10000000	A4	42	0
	7	PSEP	Fix	C-sync sep input selection	11000000	A4	44	1
	8	PDCN	Fix	Sub pic sync sep. Thereshold setting	00110000	A4	44	3
	9	PBGS	Fix	bgp position setting	00111111	A4	45	15
	10	PDL0	Fix	Y/C delay adjust (for video)	00001111	A4	46	11
	11	PDL1	Fix	Y/C delay adjust (for yuv)	11110000	A4	46	13
	12	PBRT	Fix	Y bryghtness control	00011111	A4	48	25
	13	PVP1	Fix	V pedestal level for YUV	11110000	A4	49	0
	14	PUP1	Fix	U pedestal level for YUV	00001111	A4	49	0
	15	PVP2	Fix	V pedestal level for main w/ burst	11110000	A4	4A	0
	16	PUP2	Fix	U pedestal level for main w/ burst	00001111	A4	4A	0
	17	PVP3	Fix	V pedestal level for main w/o burst	11110000	A4	4B	0
	18	PUP3	Fix	U pedestal level for main w/o burst	00001111	A4	4B	0
	19	PACS	Fix	0D, 0Eh setting mode	01000000	A4	4C	1
	20	PSYS	Fix	Color system	00110000	=	=	
	21	PSDL	Fix	Sync delay control	00000011	A4	4C	0
	22	PCCL	Fix	YUV color level	11110000	A4	4D	11
	23	PCGA	Fix	Croma gain	00001000	A4	4D	0
	24	PAAF	Fix	Auto AFC	00000100	A4	4D	1

SERVICE DATA LISTS

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common		
						Slave Addr	Sub Addr	Fix Data
PIP	25	PSU2	Fix	For test	00000010	A4	4D	0
	26	PCVF	Fix	Internal 1H comb filter	00000001	A4	4D	0
	27	PBIT	Fix	Y clamp time constant	10000000	A4	4E	0
	28	PAFC	Fix	AFC time constant	01000000	A4	4E	0
	29	PACC	Fix	Color decoder amplitude	00111111	A4	4E	21
	30	PSDT	Fix	System automatic judgment	10000000	=	=	
	31	PBUR	Fix	VCXO mode selection	01000000	A4	4F	0
	32	PEVE	Fix	Main picture PAL-N	00100000	A4	4F	0
	33	PINW	Fix	Invert sub picture field definition	00010000	A4	4F	0
	34	PINR	Fix	Invert main picture field definition	00001000	A4	4F	0
	35	PVMD	Fix	Vertical display mode when pal-n	00000100	=	=	
	36	PREF	Fix	Main picture field fix	00000010	A4	4F	0
	37	PARE	Fix	Automatic 50/60 Hz judgement	00000001	A4	4F	0
	38	PBWD	Fix	BW det. Treshold setting	00110000	A4	50	1
	39	PFRA	Fix	Freq. Adjustment for free run mode	00001111	A4	51	0
	40	PPAL	Fix	Parameter setting for PAL-M judgment	11111111	A4	52	52
	41	PHPO	Fix	Sub picture h position	00111111	A4	58	3
	42	PVPO	Fix	Sub picture v position	00111111	A4	59	22
	43	PHTI	Fix	Display timing adjust	00001111	A4	44	3
	44	PHAJ	Fix	Main/Sub switch delay control	11110000	A4	47	2
	45	PBGY	Fix	Back ground Y level setting	00001111	A4	53	0
	46	PCRO	Fix	Sub picture read mode	10000000	A4	54	0
	47	PPAR	Fix	Thereshold contol for ident judgement of sub	00001111	A4	50	1
	48	PHPF	Fix	Y output HPF	00010000	A4	51	0
	49	PFSC	Fix	FSC output	10000000	A4	43	0
	50	PVCH	Fix	15h,16h,17h, setting mode	00000100	A4	4C	0
	51	PVON	Fix	V-chip decode mode	10000000	A4	53	1
	52	PVLN	Fix	V-chip data slicer line selection	00011111	A4	54	17
	53	PVSB	Fix	V-chip data slicer start bit detection parameter	11111111	A4	55	64
	54	PVLV	Fix	V-chip data slicer slice parameter	11111111	A4	56	130
	55	SUSW	Fix	Sub-Unlock bit position switch	01000000	A4	59	0

SERVICE DATA LISTS

Service Group	No.	Name	Fix / Var	Description	Bit Mask	KV-27FV300/29FV300				KV-32FV300/36FV300			
						Slave Addr	Sub Addr	Fix Data	Var Data	Slave Addr	Sub Addr	Fix Data	Var Data
AP	0	SBAL	Fix	Sub Balance	00000111	A8	41		4	A8	41		4
	1	SBAS	Fix	Sub Bass	00000111	A8	43		4	A8	43		4
	2	STRE	Fix	Sub Treble	00000111	A8	42		0	A8	42		0
	3	SRL	Fix	Surround level	00000001	A8	44		0	A8	44		0
	4	BBOH	Fix	Surround Off - BBE high	11110000	A8	45		10	A8	45		10
	5	BBOL	Fix	Surround Off - BBE low	00001111	A8	45		5	A8	45		5
	6	BBSH	Fix	Simulated - BBE high	11110000	A8	46		0	A8	46		0
	7	BBSL	Fix	Simulated - BBE low	00001111	A8	46		0	A8	46		0
	8	BBMH	Fix	Surround - BBE high	11110000	A8	47		0	A8	47		0
	9	BBML	Fix	Surround - BBE low	00001111	A8	47		0	A8	47		0
	10	BBGH	Fix	WOW - BBE high	11110000	A8	48		6	A8	48		6
	11	BBGL	Fix	WOW - BBE low	00001111	A8	48		9	A8	48		9
	12	BBTH	Fix	Trusurround - BBE high	11110000	A8	49		7	A8	49		7
	13	BBTL	Fix	Trusurround - BBE low	00001111	A8	49		8	A8	49		8
	14	VFIX	Fix	Audio output fix data	11111111	A8	4A		244	A8	4A		244
	15	AGCL	Fix	AGC Level	00000110	A8	44		2	A8	44		2

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common		
						Slave Addr	Sub Addr	Fix Data
CCD	0	DUM0	Fix	Only for testing	11111111	=	=	
	1	VOSD	Fix	Only for testing	00000001	=	=	

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Common		
						Slave Addr	Sub Addr	Fix Data
OP	0	DISP	Fix	OSD Display position	00111111	A4	06	28
	1	RAMW	Fix		00000001	=	=	
	2	ICMP	Fix	Comparison data to determine Non-interlace signal for OSD	00011111	A4	39	4
	3	IPOR	Fix	0:Even, 1: Odd, Other: do not change	00000011	A4	3A	1
	4	FAWD	Fix	1: Forced to auto wide mode, 0:normal	00000100	A0	5D	0
	5	HCLW	Fix	H-Count Lower limit	11111111	A4	02	67
	6	HCHG	Fix	H-Count Higher limit	11111111	A4	03	254
	7	9VTM	Fix	Delay for 9V check subsystem	11111111	A4	04	55
	8	ZDET	Fix	Zero detect relay delay	11111111	A4	05	123

Service Group	No.	Name	Fix / Var	Description	Bit Mask	Slave Addr	Sub Addr	Var Data
ID	0	ID0	Fix	Model variation ID0	11111111	A4	78	SEE ID MAP
	1	ID1	Fix	Model variation ID1	11111111	A4	79	SEE ID MAP
	2	ID2	Fix	Model variation ID2	11111111	A4	7A	SEE ID MAP
	3	ID3	Fix	Model variation ID3	11111111	A4	7B	SEE ID MAP
	4	ID4	Fix	Model variation ID4	11111111	A4	7C	SEE ID MAP
	5	ID5	Fix	Model variation ID5	11111111	A4	7D	SEE ID MAP
	6	ID6	Fix	Model variation ID6	11111111	A4	7E	SEE ID MAP
	7	ID7	Fix	Model variation ID7	11111111	A4	7F	SEE ID MAP

To determine ID's value, ID map must be refered

4-5. ID MAP TABLE

Model	Destination	ID-O	ID-1	ID-2	ID-3	ID-4	ID-5	ID-6	ID-7
KV-27FV300	US	89	63	237	98	78	128	6	16
KV-27FV300	CND	89	63	237	82	78	128	6	16
KV-29FV300	E	81	63	237	194	110	128	6	80
KV-32FV300	US	89	63	237	98	78	128	6	24
KV-32FV300	CND	89	63	237	82	78	128	6	24
KV-36FV300	US/HAW	89	63	237	98	78	128	6	24
KV-36FV300	CND	89	63	237	82	78	128	6	24

4-6. A BOARD ADJUSTMENTS

H. FREQUENCY (FREE RUN) CHECK

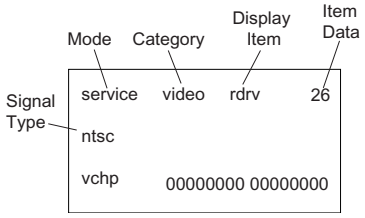
1. Input a TV mode (RF) with no signal.
2. Connect a frequency counter to base of Q501 (TP-25 H. DRIVE) on the A Board.
3. Check H. Frequency for 15734 ± 400/-200 Hz.

V. FREQUENCY (FREE RUN) CHECK

1. Select video 1 with no signal input.
2. Set the conditions for a standard setting.
3. Connect the frequency counter to TP-27 (V OUT) or CN501 pin ⑥ (V DY+) and ground on the A Board .
4. Check that V. Frequency shows 60 ± 5 Hz.

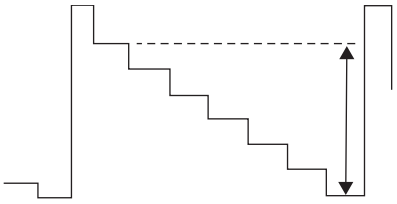
SUBCONTRAST ADJUSTMENT (RDRV)

1. Input a color-bar signal and set the level to 75%.
2. Set in Standard mode.
3. Activate the Service Adjustment Mode. Set color min pic max.
4. Set GON and BON items. Using 3 and 6 set each to the following values. Leave RON set to “1”.



R ON: ON (1)
G ON: OFF (0)
B ON: OFF (0)

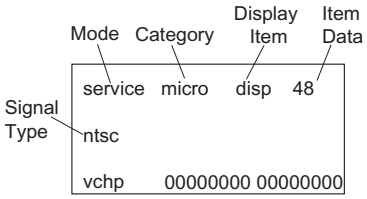
5. Connect an oscilloscope probe to C Board, CN705 pin 3 (Red Out) (TP35).
6. Select SCON with 1 and 4 .
7. Adjust the value of SCON with 3 and 6 for 1.90 ± 0.05Vpp for 27/29/32/34”, or 1.95 ± 0.05Vpp for 36/38”.



8. Reset AALS, ABLS, GON and BON values to “1”.
   R ON: ON (1)
   G ON: ON (1)
   B ON: ON (1)
9. Press MUTING then ENTER to save into the memory.

DISPLAY POSITION ADJUSTMENT (DISP)

1. Input a color-bar signal.
2. Set to Service Adjustment Mode.
3. Select DISP with 1 and 4 .
4. Adjust values of DISP with 3 and 6 to adjust characters to the center.
5. Write to memory by pressing MUTING then ENTER .
6. Check to see if the text is displayed on the screen.



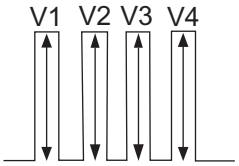
SUB BRIGHT ADJUSTMENT (SBRT)

1. Input a monoscope signal.
2. Activate the Service Adjustment Mode.
3. Set the PICTURE and BRIGHTNESS to minimum.
4. Select the SBRT item with 1 and 4 .
5. Adjust the values of SBRT with 3 and 6 to obtain a faintly visible crosshatch.
6. Press MUTING then ENTER to save into the memory.

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1. Input color-bar signal at 75%.
2. Activate the Service Adjustment Mode.
3. Set (PIC) to Max and (COL) to 50%.
4. Connect an oscilloscope probe to C Board, CN705Pin ④ Blue Out.
5. Select the SHUE and SCOL item with 1 and 4 .

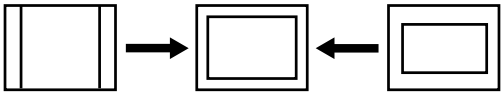
6. While showing the SHUE item, adjust the waveform with 1 and 4 until the second and third bars show the same level (V2 = V3 < 0.15Vp-p).
7. While showing the SCOL item, adjust the waveform with 3 and 6 until the first and fourth bars show the same level (V1 = V4 < 0.15Vp-p).



8. Press MUTING then ENTER to save into the memory.

V. SIZE ADJUSTMENT (VSIZ)

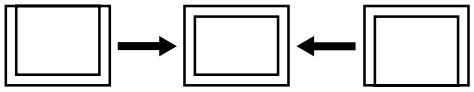
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the VSIZ item with 1 and 4 .
4. Adjust value of VPOS with 1 and 4 for the best vertical center.
5. Press MUTING then ENTER to save into the memory.



V. CENTER ADJUSTMENT (VPOS)

Perform this adjustment after performing H. Frequency (Free Run) Check.

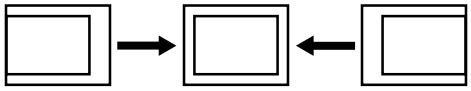
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the VPOS item with 1 and 4 .
4. Adjust value of VPOS with 3 and 6 for the best vertical center.
5. Press MUTING then ENTER to save into the memory.



H. CENTER ADJUSTMENT (HPOS)

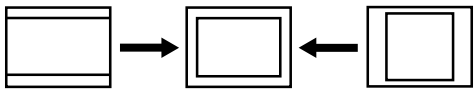
Perform this adjustment after performing H. Frequency (Free Run) Check.

1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the HPOS item with 1 and 4 .
4. Adjust the value of HPOS with 3 and 6 for the best horizontal center.
5. Press MUTING then ENTER to save into the memory.



H. SIZE ADJUSTMENT (HSIZ)

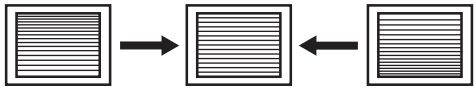
1. Input a monoscope signal.
2. Activate the Service Adjustment Mode.
3. Select HSIZ with 1 and 4 .
4. Adjust with 3 and 6 for the best horizontal size.
5. Press MUTING then ENTER to save into the memory.



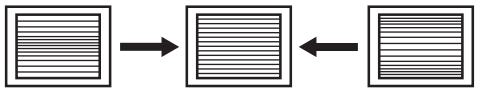
V. LINEARITY (VLIN), V. CORRECTION (SCOR), PIN AMP (PAMP), AND HORIZONTAL TRAPEZOID (HTRP) ADJUSTMENTS

1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select VLIN, SCOR, PAMP, and HTRP with with 1 and 4.
4. Adjust with 3 and 6 for the best horizontal size.
5. Press MUTING then ENTER to save into the memory.

V LINEARITY (VLIN)

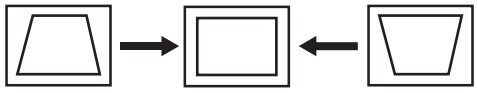


V CORRECTION (SCOR)



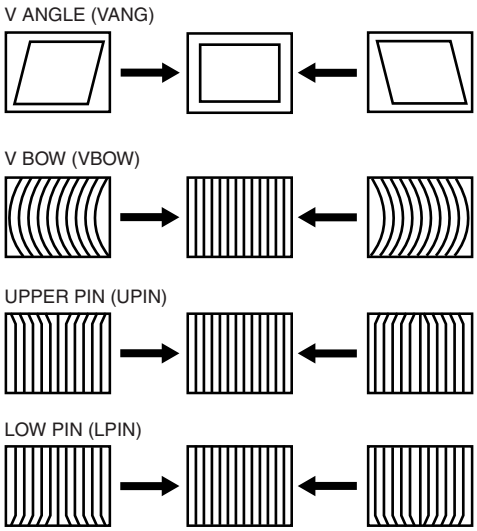
PIN AMP (PAMP)

HORIZONTAL TRAPEZOID (HTRP)



V. ANGLE (VANG), V. BOW (VBOW), UPPER PIN (UPIN) AND LOW PIN (LPIN) ADJUSTMENTS

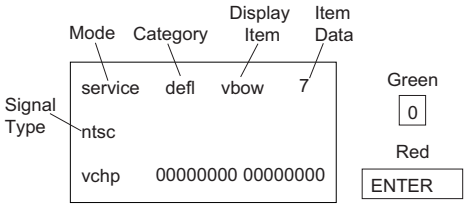
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select VANG, VBOW, UPIN, and LPIN with 1 and 4.
4. Adjust with 3 and 6 for the best picture.
5. Press MUTING then ENTER to save into the memory.



SERVICE ADJUSTMENT MODE MEMORY

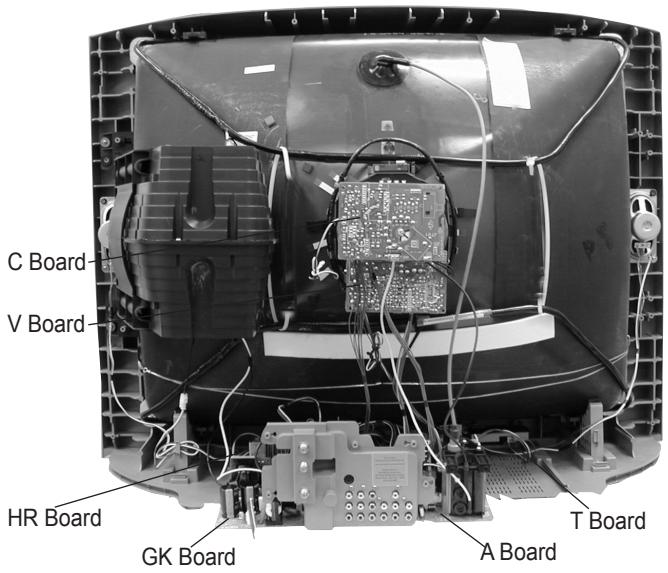
1. After completing all adjustments, press 0 then ENTER .

Read From Memory



SECTION 5: DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



5-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS INFORMATION

All capacitors are in µF unless otherwise noted. pF : µµF 50WV or less are not indicated except for electrolytics and tantalums.

All electrolytics are in 50V unless otherwise specified.

All resistors are in ohms. kΩ=1000Ω, MΩ=1000kΩ

Indication of resistance, which does not have one for rating electrical power, is as follows: Pitch : 5mm
Rating electrical power : $^1/_4$ W

$^1/_4$ W in resistance, $^1/_{10}$ W and $^1/_8$ W in chip resistance.

: nonflammable resistor

: fusible resistor

: internal component

: panel designation and adjustment for repair

: earth ground

: earth-chassis

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

Readings are taken with a color-bar signal input.

Readings are taken with a 10MΩ digital multimeter.

Voltages are DC with respect to ground unless otherwise noted.

Voltage variations may be noted due to normal production tolerances.

All voltages are in V.

S : Measurement impossibility.

: B+line

: B-line (Actual measured value may be different).

: signal path (RF)

Circled numbers are waveform references.

The components identified by shading and ⚠ symbol are critical for safety. Replace only with part number specified.

The symbol indicates a fast operating fuse and is displayed on the component side of the board. Replace only with fuse of the same rating as marked.

Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

Le symbole indique une fusible a action rapide. Doit etre remplace par une fusible de meme yaleur, comme maque.

The components identified by ⋈ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be necessary, replace only with the value originally used.

When replacing components identified by ◪, make the necessary adjustments as indicated. If the results do not meet the specified value, change the component identified by ⋈ and repeat the adjustment until the specified value is achieved.

(Refer to R530 and R531 adjustment on page 16.)

When replacing the parts listed in the table below, it is important to perform the related adjustments.

Part Replaced (◪)	Adjustment (⋈)
A BOARD: R550, T503, T504, D519, IC501, R533, D521, R532, D520, C531, R529, R530, R531, C532	**HV HOLD DOWN** R530, R531

REFERENCE INFORMATION

RESISTOR

: RN	METAL FILM
: RC	SOLID
: FPRD	NONFLAMMABLE CARBON
: FUSE	NONFLAMMABLE FUSIBLE
: RW	NONFLAMMABLE WIREWOUND
: RS	NONFLAMMABLE METAL OXIDE
: RB	NONFLAMMABLE CEMENT
: ※	ADJUSTMENT RESISTOR

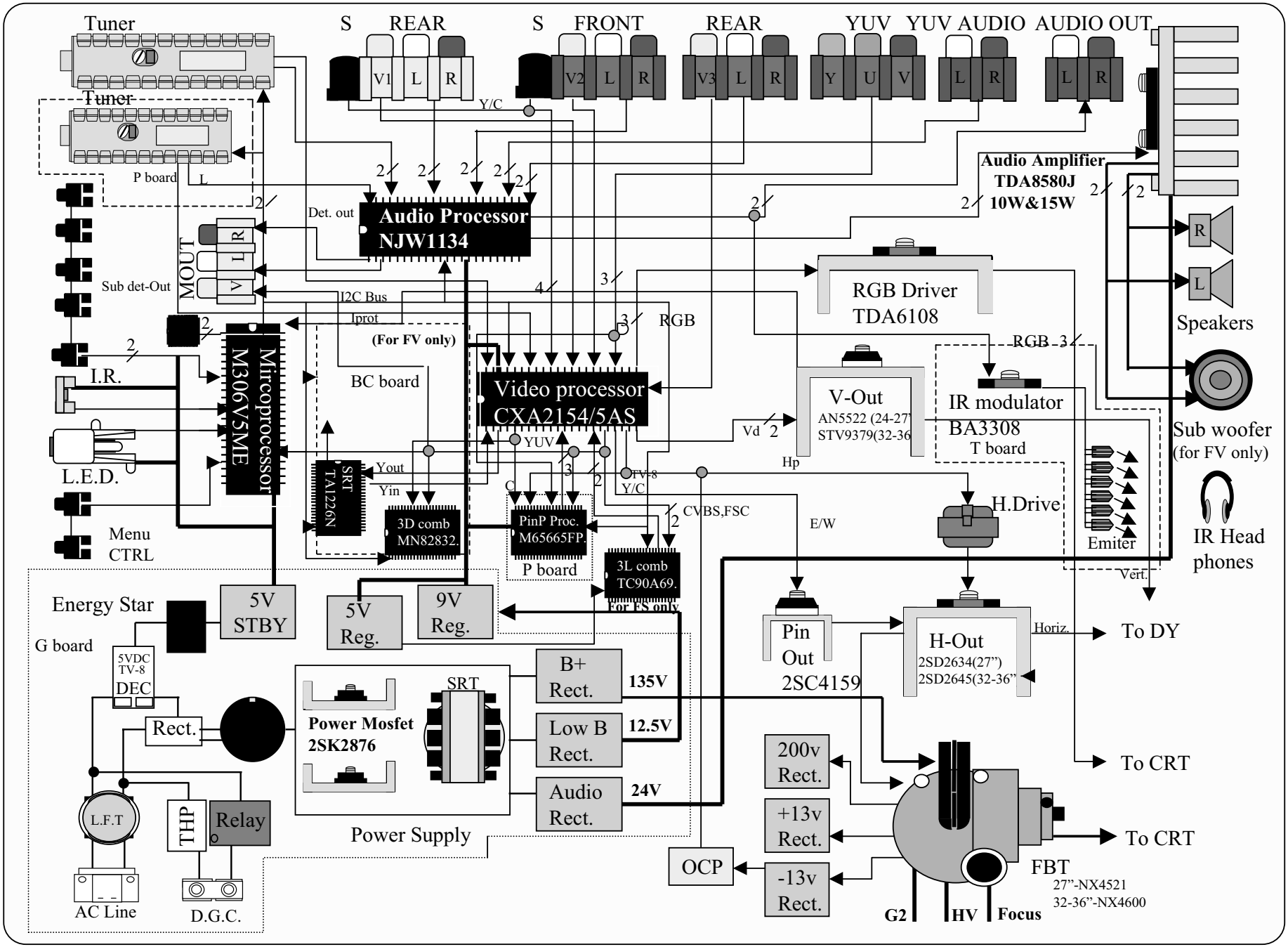
CAPACITOR

: TA	TANTALUM
: PS	STYROL
: PP	POLYPROPYLENE
: PT	MYLAR
: MPS	METALIZED POLYESTER
: MPP	METALIZED POLYPROPYLENE
: ALB	BIPOLAR
: ALT	HIGH TEMPERATURE
: ALR	HIGH RIPPLE

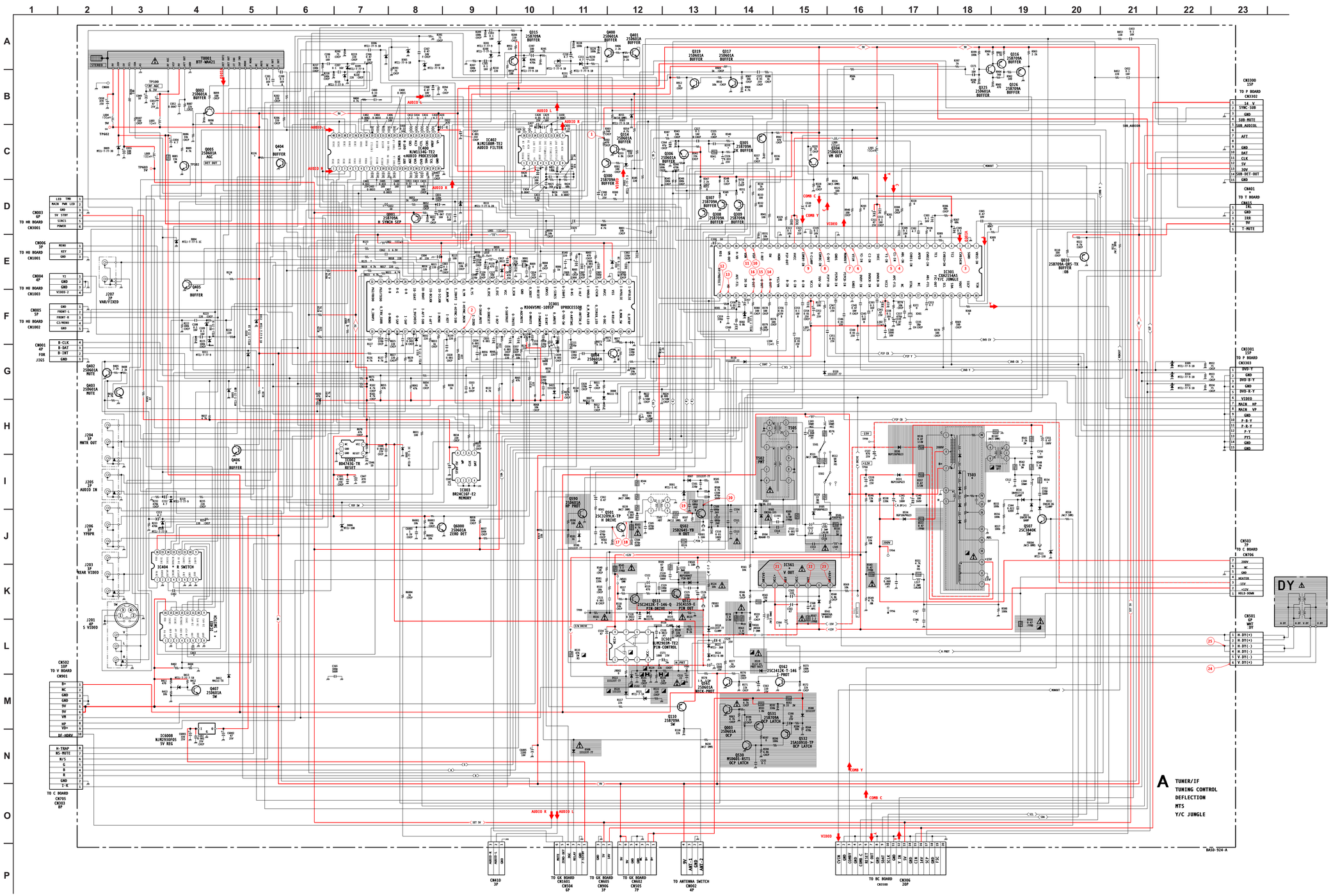
COIL

: LF-8L	MICRO INDUCTOR

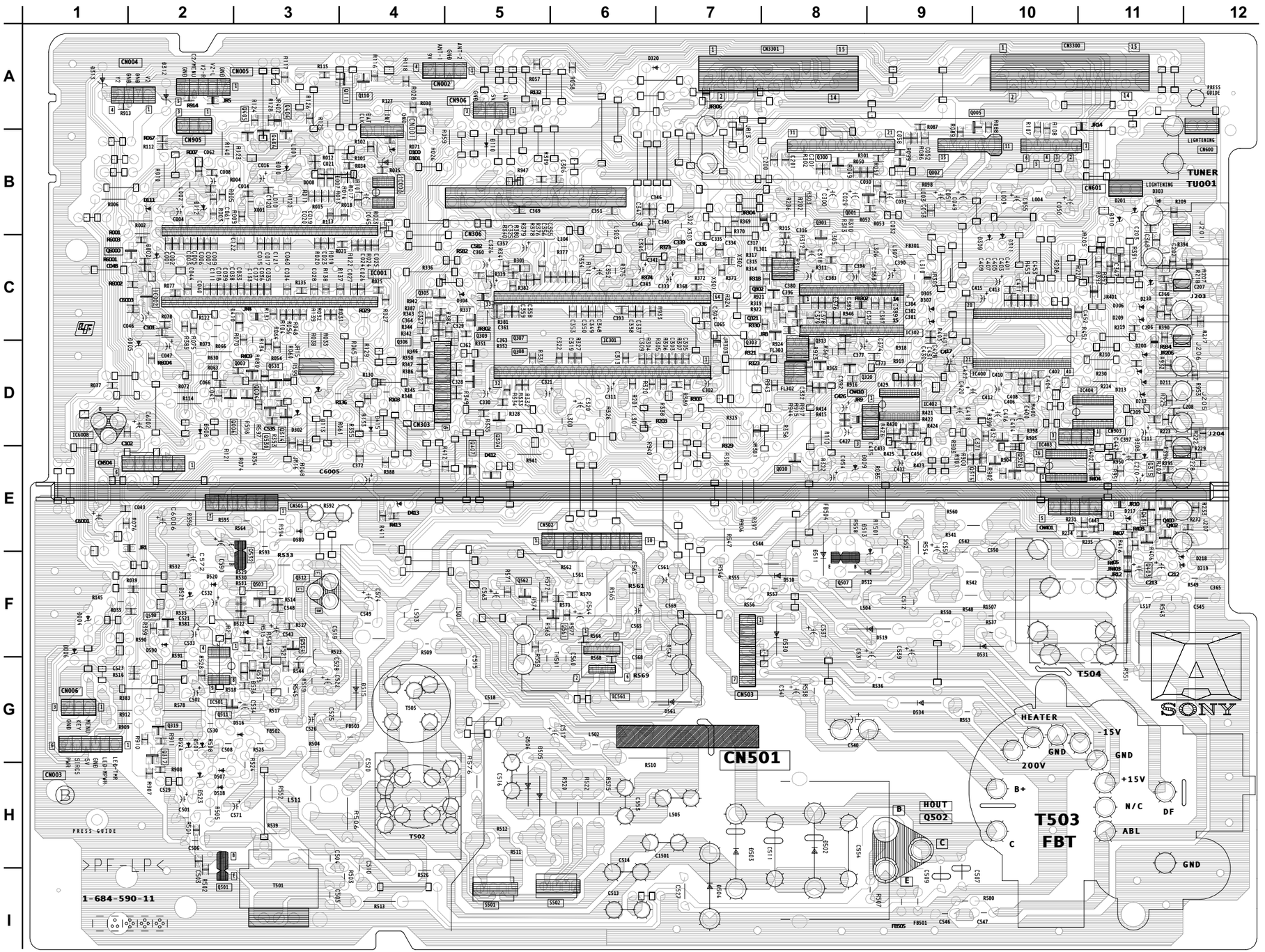
5-3. BLOCK DIAGRAM AND SCHEMATICS



A BOARD SCHEMATIC DIAGRAM



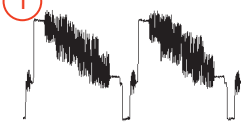
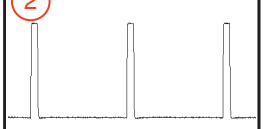
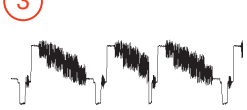
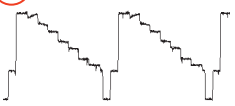
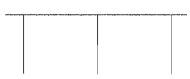
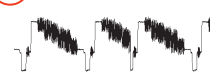
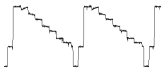
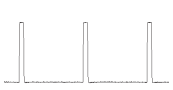
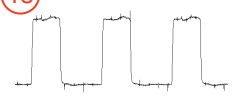
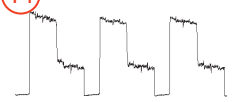
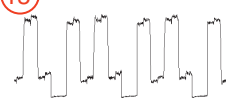
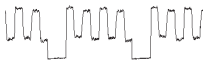
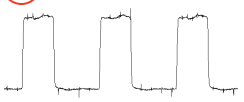
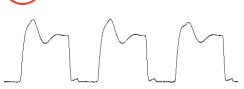
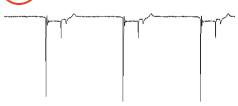
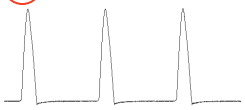
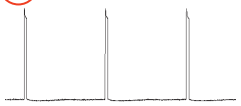
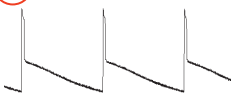
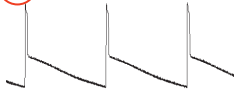
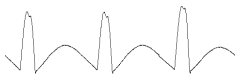
A [TUNING CONTROL, DEFLECTION, TUNER/IF, Y/C JUNGLE, MTS]



A BOARD LOCATOR LIST

DIODE		D501	G-2	TRANSISTOR	
D002	C-2	D502	H-8	Q001	B-8
D004	F-1	D503	H-7	Q002	B-9
D005	D-2	D504	I-7	Q003	D-3
D006	F-1	D505	H-5	Q004	D-3
D007	B-4	D507	H-2	Q005	A-10
D008	B-3	D508	D-2	Q010	E-8
D009	E-8	D510	F-8	Q110	A-4
D010	B-3	D511	F-8	Q111	A-4
D110	B-5	D512	F-9	Q300	B-8
D111	B-2	D513	F-9	Q304	D-5
D112	B-2	D515	G-4	Q305	C-4
D113	D-3	D516	G-3	Q306	D-4
D200	D-11	D518	H-2	Q307	C-5
D201	B-11	D519	F-9	Q308	D-5
D209	C-11	D520	F-2	Q309	C-5
D210	C-11	D521	F-2	Q314	D-3
D211	D-11	D522	F-3	Q315	E-11
D212	D-11	D523	H-2	Q316	E-10
D213	D-11	D524	G-2	Q317	G-2
D217	E-11	D530	F-8	Q319	G-2
D218	F-12	D531	F-10	Q325	E-10
D219	F-12	D534	G-9	Q326	E-10
D302	D-3	D535	G-3	Q400	E-11
D303	B-11	D536	G-3	Q401	E-11
D304	C-5	D561	G-7	Q402	E-12
D305	C-9	D580	E-3	Q403	E-11
D306	C-11	D590	F-2	Q404	A-3
D307	C-9	IC		Q405	A-3
D308	E-11	IC001	C-3	Q406	B-3
D309	B-10	IC002	C-2	Q407	E-5
D310	B-11	IC003	B-4	Q501	H-2
D311	B-10	IC301	C-6	Q502	H-9
D312	A-2	IC400	D-10	Q507	F-8
D313	A-1	IC402	D-9	Q511	G-3
D320	A-7	IC403	E-10	Q512	F-3
D410	C-2	IC404	D-11	Q530	D-3
D412	E-5	IC501	G-2	Q531	D-3
D413	E-4	IC561	G-6	Q532	F-3
D415	D-4	IC6008	D-1	Q561	F-6
				Q562	F-5
				Q590	F-2
				Q6000	C-1

A BOARD WAVEFORM

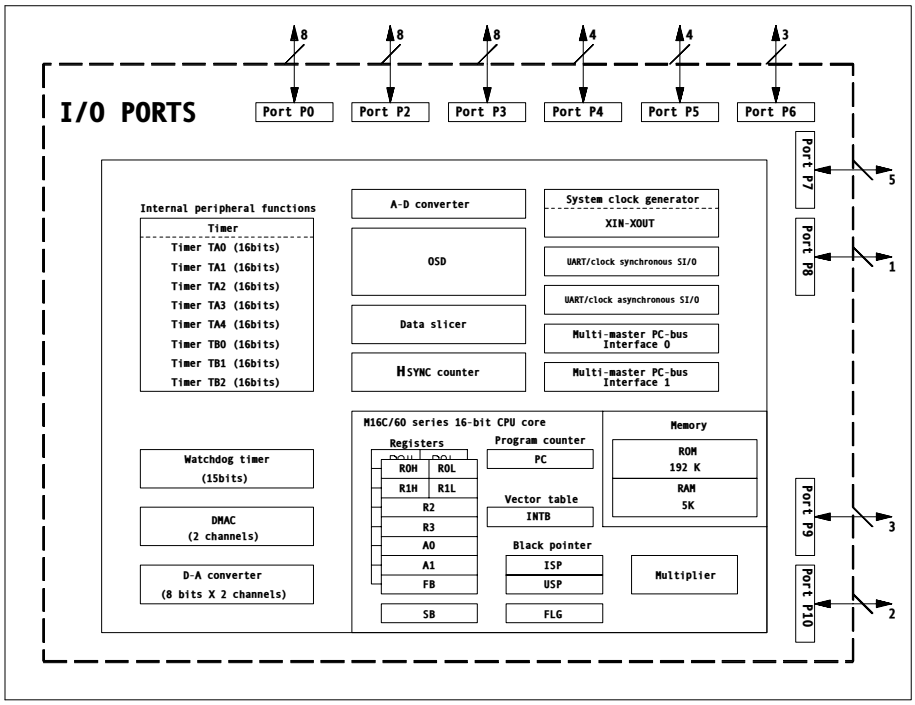
1  2.14V p-p (H)	2  4.5V p-p (H)	3  1.2V p-p (H)	4 0.7V p-p (H)
5  0.9V p-p (H)	6  4.7V p-p (V)	7  2.2V p-p (H)	8 1.2V p-p (H)
9  1.8V p-p (H)	10 1.2V p-p (V)	11 1.2V p-p (V)	12  6.6V p-p (H)
13  5.9V p-p (H)	14  3.9V p-p (H)	15  3.0V p-p (H)	16  3.3V p-p (H)
17  2.6V p-p (H)	18  212.5V p-p (H)	19  48.1V p-p (H)	20  1169mV p-p (H)
21  28.2V p-p (V)	22  52.8V p-p (V)	23 0.5V p-p (V)	24  52.8V p-p (V)
25  281.5V p-p (H)			

A BOARD MARK(*) LIST

REF. NO.	LOCATION	KV-27FV300 KV-29FV300	KV-32FV300	KV-36FV300
C442	K-3	#	0.22UF	0.22UF
C443	L-4	#	0.22UF	0.22UF
C511	I-13	17000PF	22000PF	22000PF
C512	I-19	0.0039UF	0.0027UF	0.0027UF
C513	J-13	0.047UF	0.051UF	0.051UF
C514	I-14	0.68UF	0.82UF	0.82UF
C516	J-15	1UF	0.82UF	0.82UF
C546	K-17	#	0.001UF	0.001UF
C547	K-17	#	0.001UF	0.001UF
C550	H-19	0.0015UF	680PF	680PF
C553	J-15	0.1UF	0.47UF	0.47UF
C554	I-13	2700PF	4700PF	4700PF
C1501	I-14	#	0.1UF	0.1UF
CN401	D-23	#	5P	5P
IC403	K-4	#	BU4051BCF-E2	BU4051BCF-E2
IC404	J-4	#	BU4051BCF-E2	BU4051BCF-E2
IC561	J-14	TDA8172	STV9379	STV9379
L505	J-15	150UH	68UH	68UH
Q404	C-5	#	2SD601A-QRS-TX	2SD601A-QRS-TX
Q405	E-4	#	2SD601A-QRS-TX	2SD601A-QRS-TX
Q406	H-5	#	2SD601A-QRS-TX	2SD601A-QRS-TX
R123	E-7	#	2.2K	2.2K
R124	E-4	#	220	220
R125	E-7	#	2.2K	2.2K
R126	C-5	#	220	220
R127	F-7	#	2.2K	2.2K
R128	G-5	#	220	220
R339	C-13	330K	39K	39K
R340	C-13	2.2M	3.3M	3.3M
R341	C-13	56K	330K	330K
R402	L-3	#	4.7K	4.7K
R404	L-4	#	4.7K	4.7K
R501	I-11	330	470	470
R504	I-12	68	560	560
R516	K-11	8.2K	5.6K	6.8K
R523	K-13	22K	12K	12K
R526	J-12	4.7	10	10
R554	I-19	15K	2.2K	#
R576	H-15	22	10	10
T503	I-18	8-598-834-20	8-598-824-10	8-598-824-10
T505	H-15	1-431-693-11	1-435-098-11	1-435-098-11

#: Not Mounted

IC BLOCK DIAGRAM



A BOARD IC VOLTAGE LIST

IC001	
PIN	VOLT
1	4.9
2	0.6
3	GND
4	5.0
5	0.2
6	1.7
7	1.4
8	0.5
9	0.0
10	5.0
11	GND
12	5.0
13	2.3
14	GND
15	2.1
16	5.0
17	2.6
18	2.6
19	0.3
20	0.0
21	2.1
22	5.0
23	5.0
24	5.0
25	5.0
26	5.0
27	5.0
28	0.0
29	0.0
30	0.0
31	N/C
32	N/C
33	4.8
34	0.0
35	0.0
36	0.0
37	0.0
38	4.2
39	1.7
40	2.6
41	5.0
42	5.0
43	0.2
44	0.6
45	1.2
46	4.8
47	4.8
48	0.0
49	0.1
50	4.4
51	5.0
52	0.1
53	0.0
54	4.8
55	0.1
56	0.0
57	4.8
58	N/C
59	N/C
60	0.0
61	0.1
62	4.6
63	0.1
64	N/C

IC002	
PIN	VOLT
1	N/C
2	GND
3	GND
4	5.0
5	5.0

IC003	
PIN	VOLT
1	GND
2	GND
3	GND
4	GND
5	5.0
6	5.0
7	0.0
8	5.0

IC301	
PIN	VOLT
1	5.0
2	GND
3	5.0
4	5.0
5	4.8
6	5.0
7	4.8
8	3.4
9	5.2
10	1.9
11	0.0
12	4.8
13	9.0
14	0.0
15	4.8
16	4.9
17	4.4
18	0.0
19	3.8
20	5.5
21	3.6
22	5.8
23	9.0
24	4.4
25	0.0
26	4.1
27	2.4
28	3.5
29	3.5
30	5.9
31	5.5
32	7.6
33	3.6
34	2.8
35	2.5
36	3.9
37	1.5
38	1.6
39	1.5
40	0.0
41	4.6
42	4.6
43	4.6
44	9.0
45	0.1
46	4.3
47	5.2
48	5.2
49	GND
50	4.8
51	5.2
52	5.2
53	9.1
54	5.3
55	N/C
56	1.7
57	N/C
58	6.9
59	N/C
60	4.7
61	4.7
62	4.7
63	1.1
64	5.1

IC400	
PIN	VOLT
1	4.5
2	4.5
3	4.5
4	4.5
5	4.5
6	4.5
7	4.5
8	4.5
9	4.5
10	4.5
11	4.5
12	4.5
13	4.5
14	4.5
15	4.5
16	4.5

IC402	
PIN	VOLT
1	GND
2	0.3
3	9.0
4	4.5
5	4.5
6	4.5
7	4.5
8	GND
9	4.5
10	4.5
11	4.5
12	4.5
13	4.5
14	4.5
15	4.5
16	4.5
17	1.7
18	4.7
19	4.7
20	GND
21	9.0
22	4.4
23	3.8
24	3.8
25	4.0
26	0.6
27	4.6
28	4.6
29	4.6
30	4.6
31	4.6
32	4.6
33	4.6
34	4.6
35	4.5
36	4.5
37	4.5
38	4.5
39	4.5
40	4.5

IC403	
PIN	VOLT
1	4.5
2	GND
3	4.5
4	0.0
5	4.5
6	GND
7	GND
8	GND
9	9.0
10	9.0
11	9.0
12	4.5
13	4.5
14	4.5
15	4.5
16	9.0

IC404	
PIN	VOLT
1	4.5
2	GND
3	0.4
4	0.4
5	4.5
6	GND
7	0.0
8	GND
9	9.0
10	9.0
11	9.0
12	4.5
13	4.5
14	4.5
15	4.5
16	9.0

IC501	
PIN	VOLT
1	-13.3
2	8.2
3	7.2
4	-15.0
5	2.3
6	2.5
7	-13.5
8	12.0

IC561	
PIN	VOLT
1	1.5
2	12.0
3	-12.0
4	-15.0
5	0.3
6	14.2
7	1.4

IC6008	
PIN	VOLT
I	7.5
O	5.0
G	GND

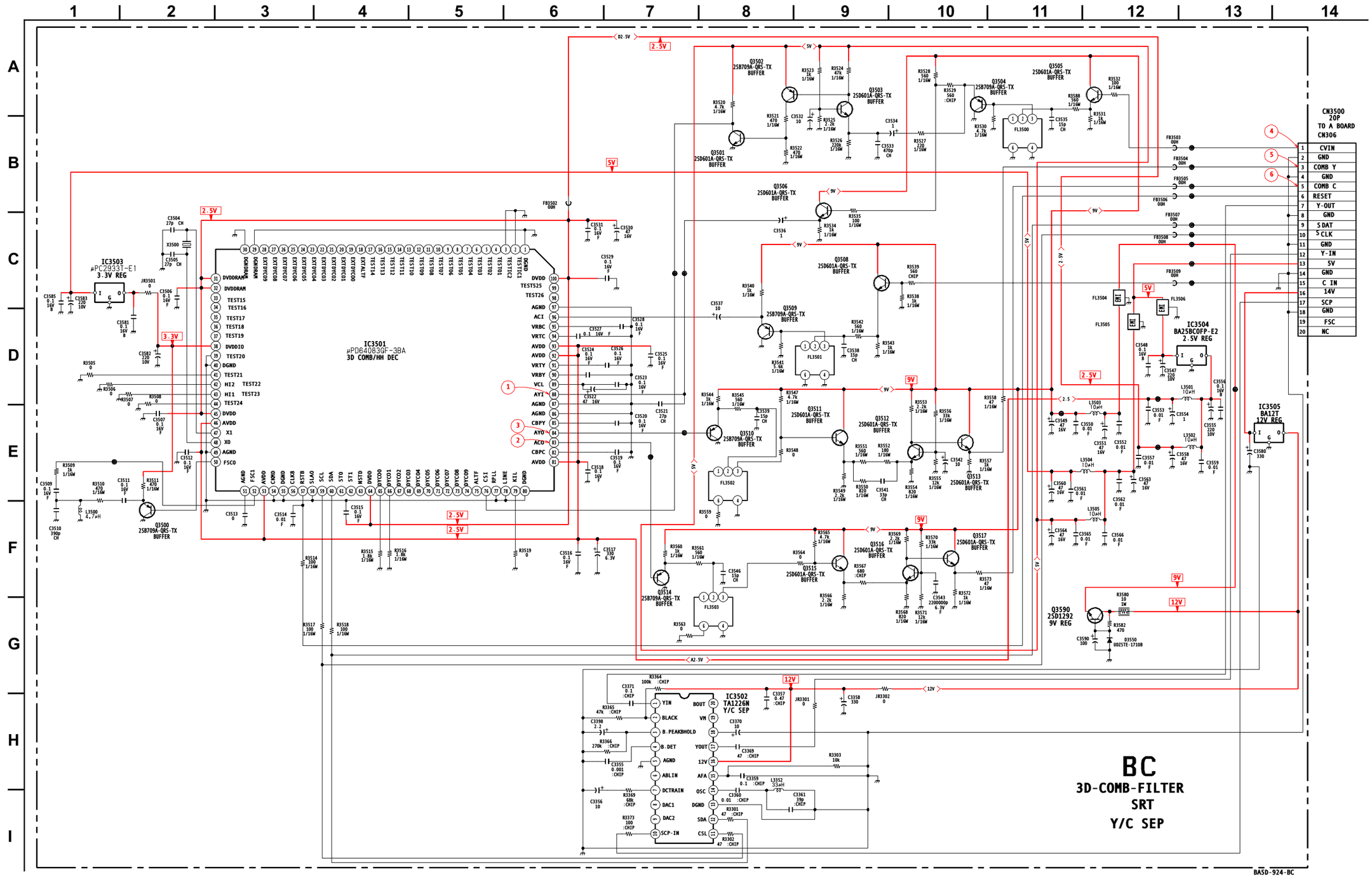
All voltages are in V.

A BOARD TRANSISTOR VOLTAGE LIST

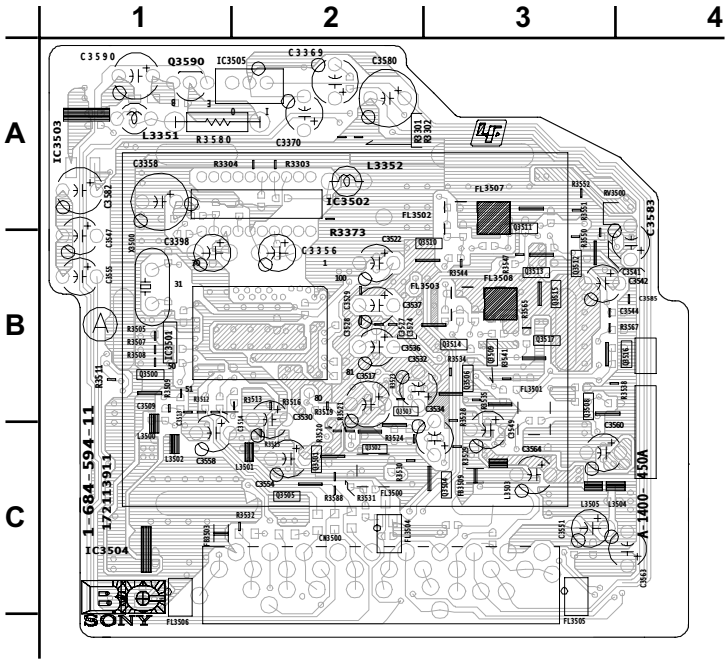
	B	C	E		B	C	E
Q001	0.0	0.4	5.0	**Q400**	0.0	0.0	GND
Q002	4.4	9.0	3.8	**Q401**	0.0	0.0	GND
Q003	0.7	0.0	GND	**Q402**	0.0	0.0	GND
Q004	0.0	4.3	GND	**Q403**	0.0	0.0	GND
Q005	0.1	4.9	GND	**Q404**	0.0	9.1	GND
Q010	4.3	GND	4.9	**Q405**	0.0	9.1	GND
Q110	4.8	0.0	5.0	**Q406**	0.0	9.1	GND
Q300	4.6	GND	5.2	**Q407**	0.7	0.0	GND
Q304	5.0	9.0	4.4	**Q501**	0.0	123.6	GND
Q305	5.0	0.0	3.4	**Q502**	0.0	131.8	0.0
Q306	2.0	9.0	2.3	**Q507**	0.3	110.7	GND
Q307	1.5	GND	2.2	**Q511**	-13.5	-8.4	-15.0
Q308	1.5	GND	2.2	**Q512**	-14.9	-2.0	-15.0
Q309	1.5	GND	2.2	**Q530**	0.0	4.4	GND
Q314	0.0	3.4	GND	**Q531**	4.4	0.0	4.4
Q315	3.4	GND	4.1	**Q532**	133.6	0.0	133.8
Q316	6.4	2.7	7.1	**Q561**	0.0	4.4	GND
Q317	0.0	3.9	GND	**Q562**	0.0	0.0	GND
Q319	0.6	0.6	GND	**Q590**	0.0	3.6	GND
Q325	2.6	6.4	1.9	**Q6000**	0.6	1.2	GND
Q326	2.7	GND	3.4				

All voltages are in V.

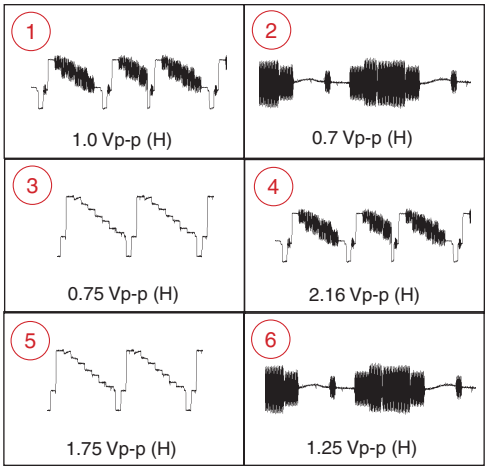
BC BOARD SCHEMATIC DIAGRAM



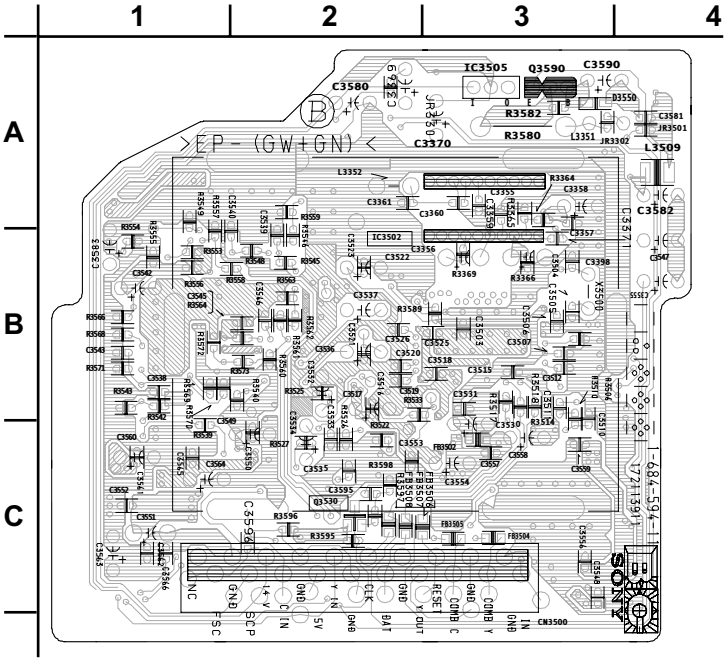
BC [3D COMB FILTER, SRT, Y/C SEP] COMPONENT SIDE



BC BOARD WAVEFORM



BC [3D COMB FILTER, SRT, Y/C SEP] CONDUCTOR SIDE



BC BOARD IC VOLTAGE LIST

IC3501		27	N/C	55	GND	83	1.4	9	N/C
PIN	**VOLT**	28	N/C	56	N/C	84	1.4	10	1.2
1	GND	29	GND	57	4.8	85	1.1	11	4.7
2	GND	30	GND	58	GND	86	GND	12	4.7
3	GND	31	2.5	59	4.7	87	0.0	13	0.0
4	N/C	32	2.5	60	4.7	88	1.1	14	11.5
5	N/C	33	N/C	61	N/C	89	0.7	15	4.8
6	N/C	34	N/C	62	N/C	90	0.7	16	12.0
7	N/C	35	N/C	63	N/C	91	1.3	17	0.0
8	N/C	36	N/C	64	2.5	92	2.5	18	0.5
9	N/C	37	N/C	65	0.0	93	2.5	19	N/C
10	N/C	38	3.3	66	0.0	94	0.0	20	N/C
11	N/C	39	GND	67	N/C	95	0.0	**IC3503**	
12	N/C	40	GND	68	N/C	96	1.1	**PIN**	**VOLT**
13	N/C	41	GND	69	N/C	97	GND	I	5.0
14	N/C	42	GND	70	N/C	98	N/C	O	3.3
15	N/C	43	GND	71	N/C	99	N/C	G	GND
16	N/C	44	GND	72	N/C	100	2.5	**IC3504**	
17	N/C	45	2.5	73	N/C	**IC3502**		**PIN**	**VOLT**
18	N/C	46	2.5	74	N/C	**PIN**	**VOLT**	I	5.0
19	N/C	47	1.3	75	N/C	1	4.7	O	2.5
20	N/C	48	1.0	76	4.2	2	3.8	G	GND
21	N/C	49	GND	77	GND	3	3.9	**IC3505**	
22	N/C	50	1.4	78	GND	4	4.7	**PIN**	**VOLT**
23	N/C	51	GND	79	GND	5	GND	I	14.0
24	N/C	52	1.3	80	GND	6	N/C	O	12.0
25	N/C	53	2.5	81	2.5	7	4.8	G	GND
26	N/C	54	GND	82	1.1	8	N/C		

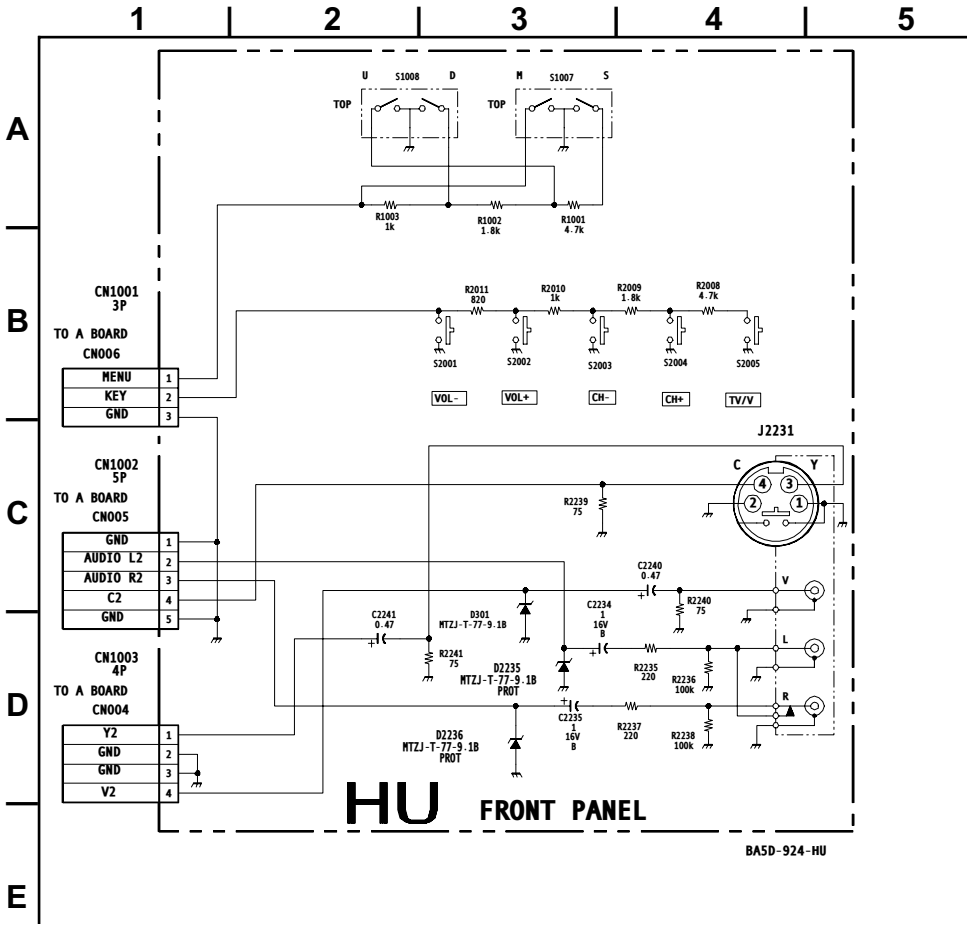
All voltages are in V.

BC BOARD TRANSISTOR TABLE

	B	C	E		B	C	E
Q3500	1.4	GND	2.1	**Q3510**	2.1	GND	1.4
Q3501	4.7	4.2	GND	**Q3511**	2.3	9.0	2.9
Q3502	4.7	0.5	5.0	**Q3512**	2.5	5.7	1.9
Q3503	3.3	4.7	3.5	**Q3513**	5.7	9.0	5.0
Q3504	3.3	GND	4.0	**Q3514**	1.4	GND	2.1
Q3505	4.3	9.0	3.7	**Q3515**	2.9	9.0	2.3
Q3506	6.2	9.0	5.6	**Q3516**	2.5	6.0	1.9
Q3508	2.4	9.0	1.8	**Q3517**	6.0	9.0	5.4
Q3509	1.7	GND	2.3	**Q3590**	10.2	11.3	9.0

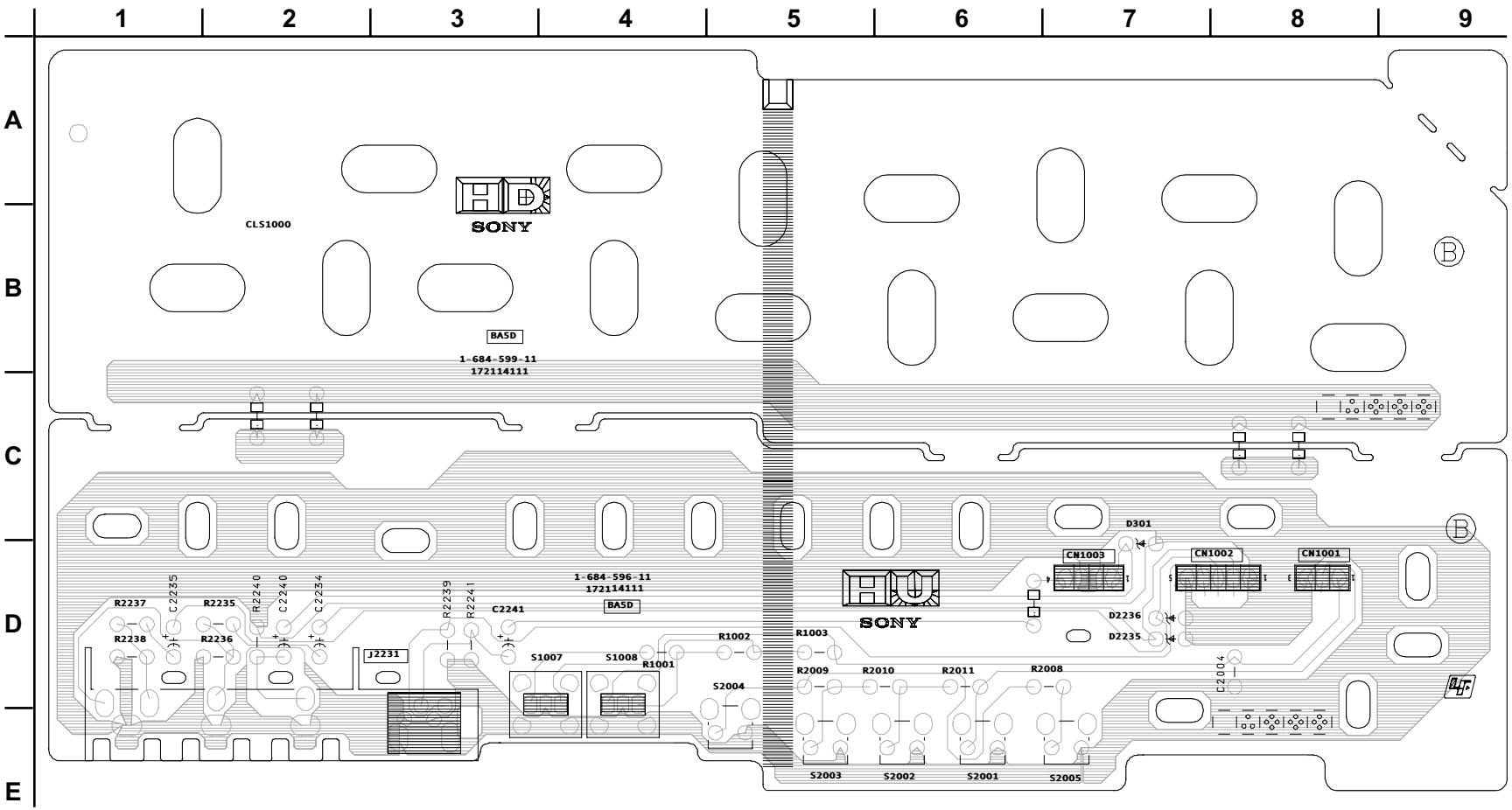
All voltages are in V.

HU BOARD SCHEMATIC DIAGRAM

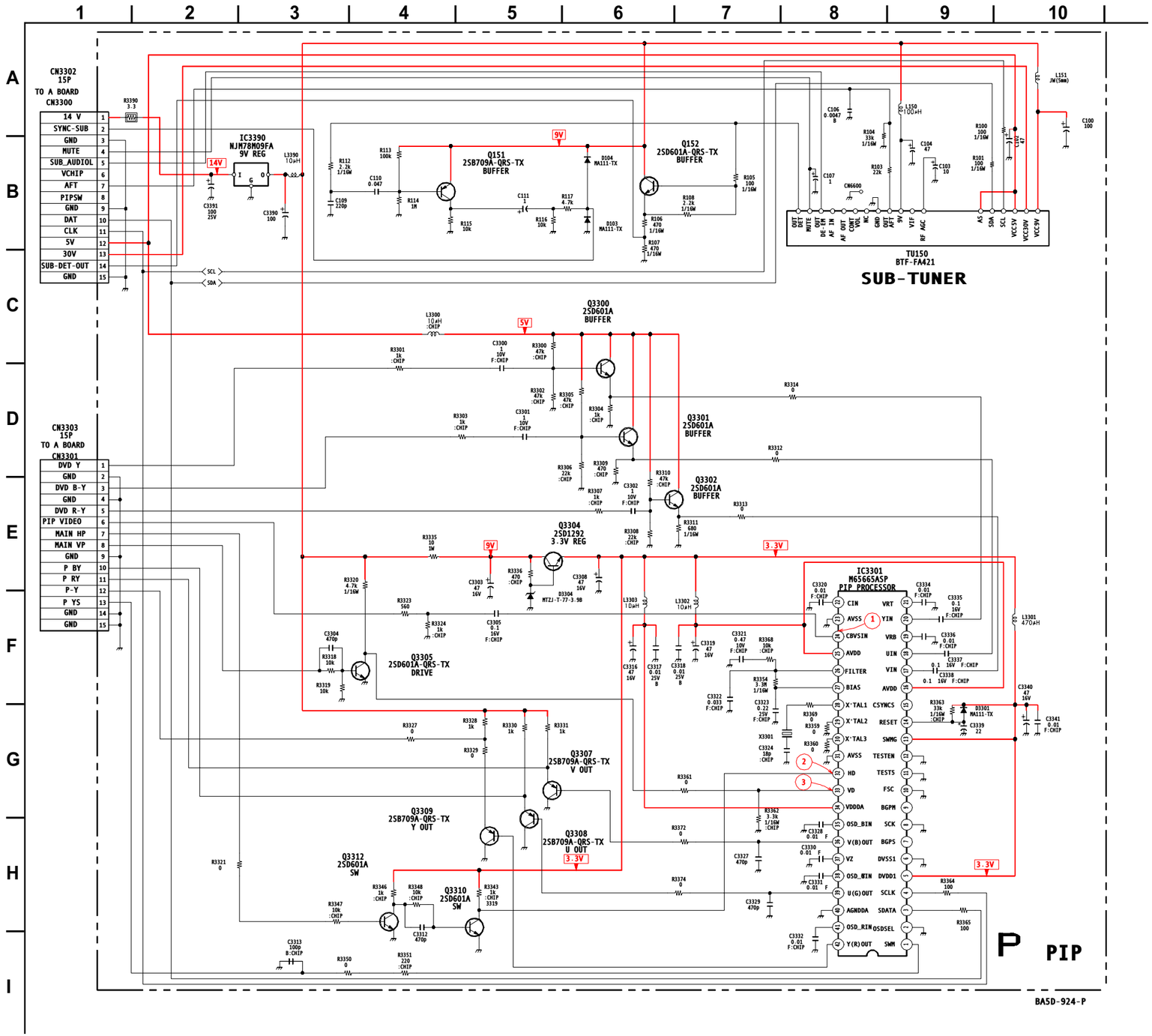


HD [SPACER] (KV-32FV300/36FV300 0NLY)

HU [FRONT PANEL]



P BOARD SCHEMATIC DIAGRAM



P BOARD IC VOLTAGE LIST

IC3301		11	GND	23	GND	35	0.8
PIN	VOLT	12	GND	24	0.9	36	0.8
1	0.2	13	3.3	25	3.3	37	2.3
2	GND	14	3.2	26	3.5	38	0.8
3	4.5	15	N/C	27	2.0	39	0.8
4	4.5	16	3.3	28	1.7	40	GND
5	3.3	17	1.0	29	GND	41	0.8
6	GND	18	1.0	30	GND	42	0.6
7	N/C	19	0.5	31	GND	IC3390	
8	GND	20	0.5	32	0.6	PIN	VOLT
9	N/C	21	1.6	33	0.0	I	14.0
10	GND	22	1.0	34	3.3	O	9.0
						G	GND

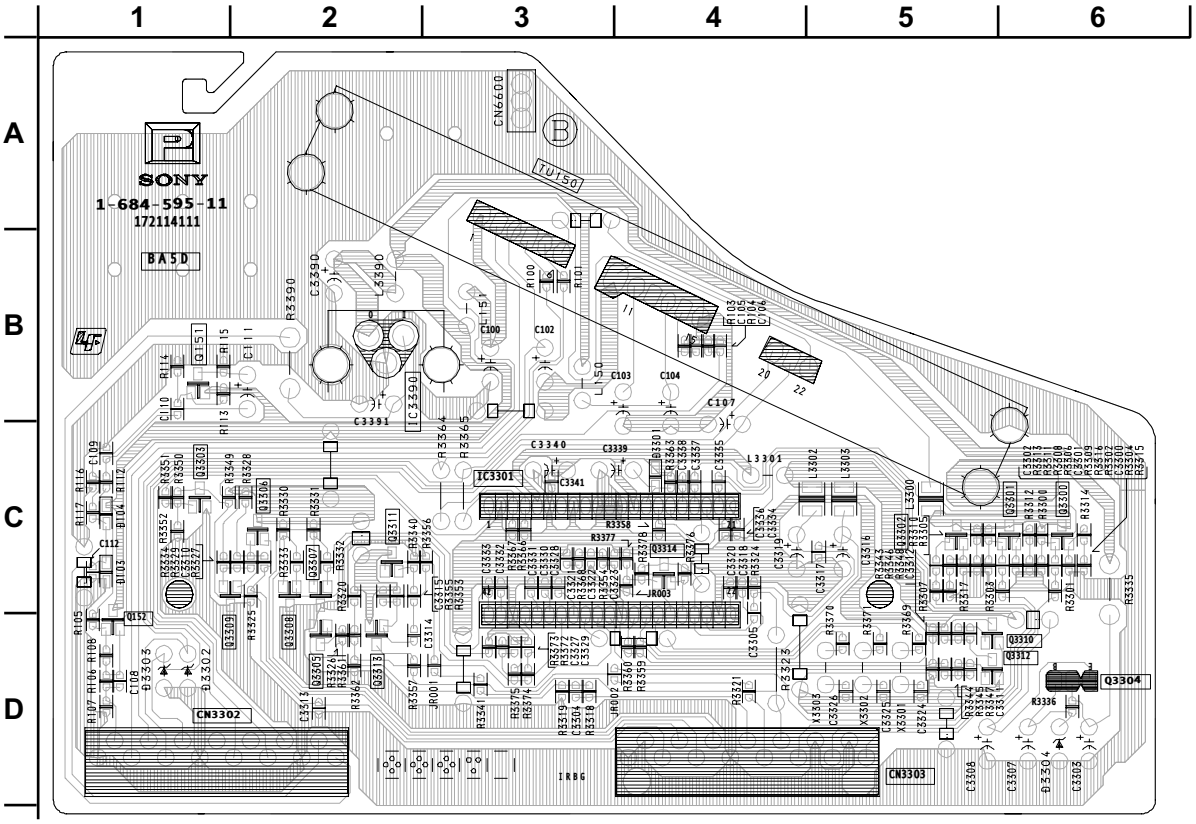
All voltages are in V.

P BOARD TRANSISTOR TABLE

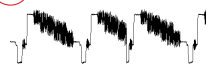
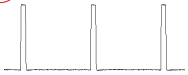
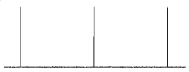
	B	C	E
Q151	8.4	4.5	9.0
Q152	3.9	9.0	3.2
Q3300	2.3	5.0	1.7
Q3301	1.4	5.0	0.8
Q3302	1.4	5.0	0.8
Q3304	3.9	9.0	3.3
Q3305	0.7	0.1	GND
Q3307	0.8	GND	1.5
Q3308	0.7	GND	1.4
Q3309	0.6	GND	1.3
Q3310	0.5	0.6	GND
Q3312	0.2	2.7	GND

All voltages are in V.

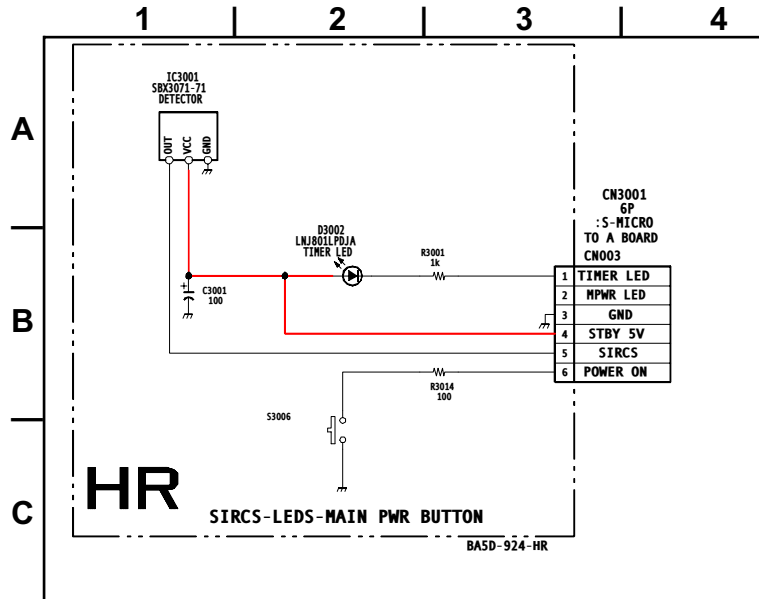
P [PIP]



P BOARD WAVEFORM

1	2	3
		
1.0 Vp-p (H)	3.5 Vp-p (H)	3.75 Vp-p (H)

HR BOARD SCHEMATIC DIAGRAM

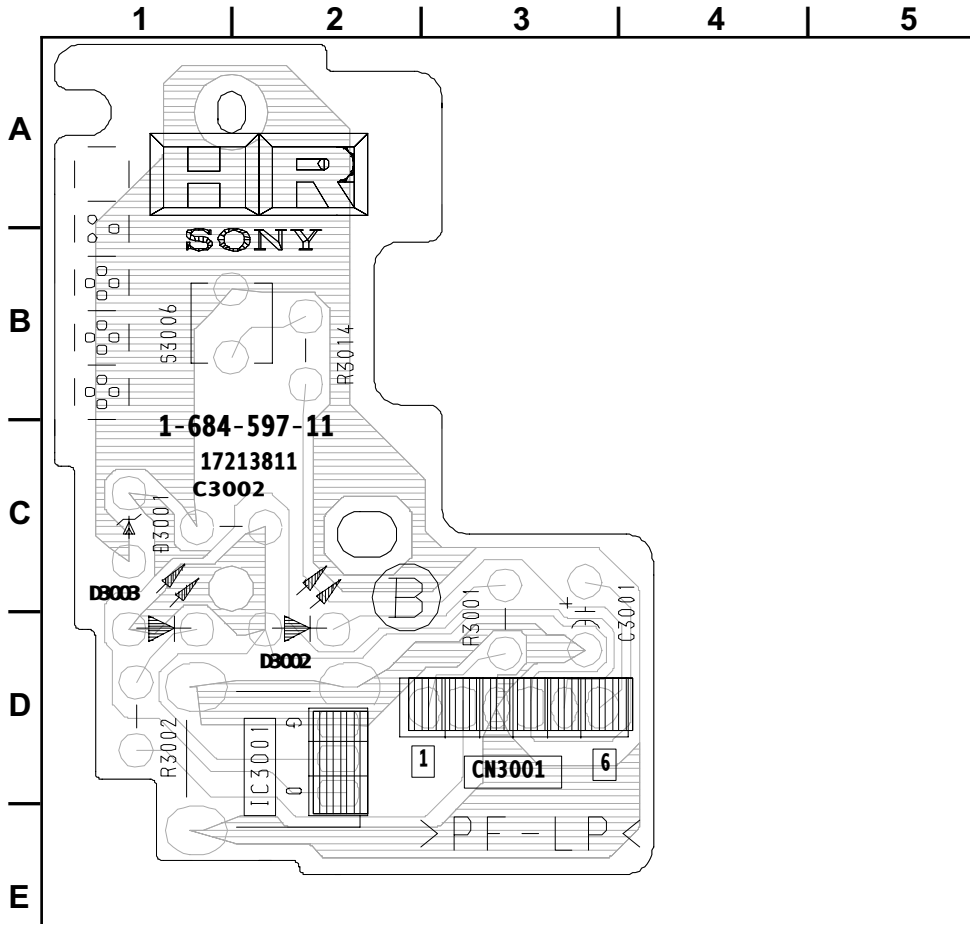


HR BOARD IC VOLTAGE TABLE

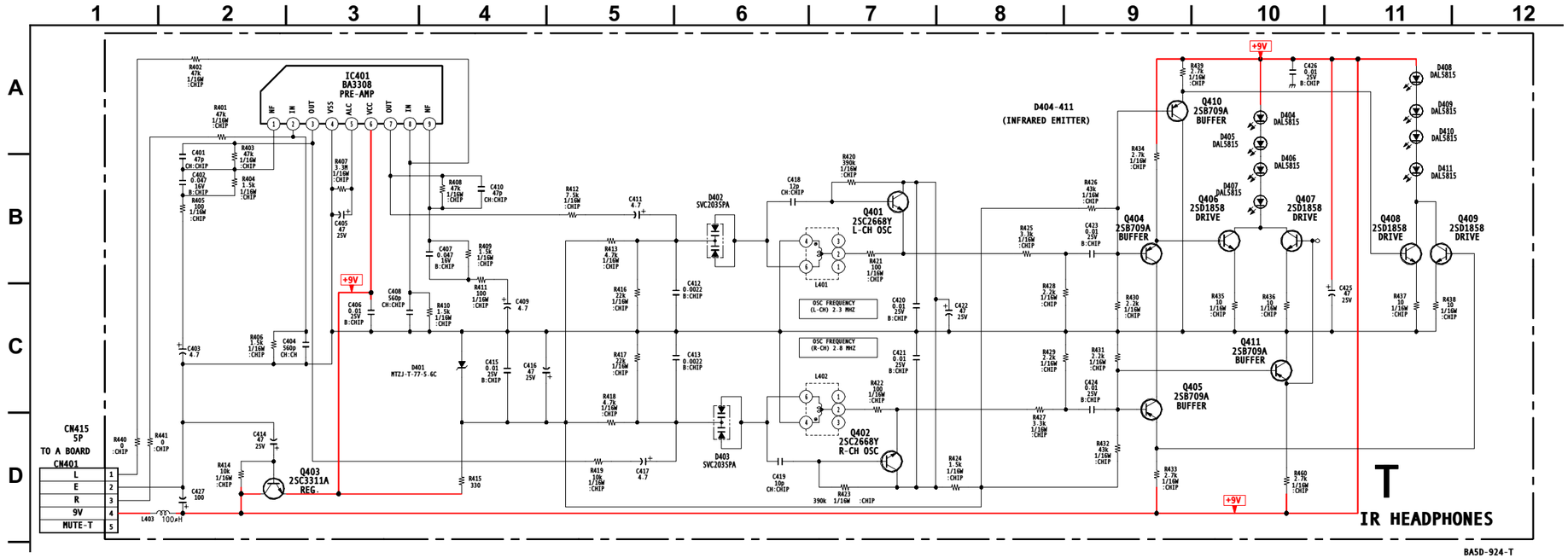
IC3001	
PIN	VOLT
I	5.0
O	5.0
G	GND

All voltages are in V.

HR [SIRCS, LEDS, MAIN POWER BUTTON]



T BOARD SCHEMATIC DIAGRAM (KV-32FV300/36FV300 ONLY)



T BOARD IC VOLTAGE TABLE

IC401	
PIN	VOLT
1	1.9
2	0.0
3	1.9
4	0.0
5	1.2
6	9.0
7	1.9
8	0.0
9	1.9

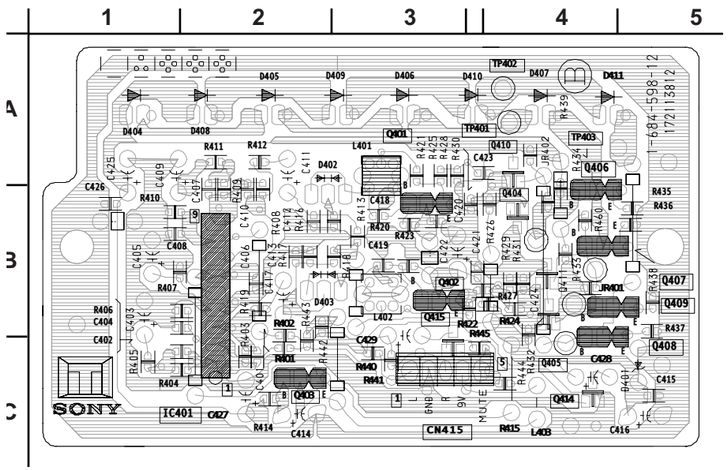
All voltages are in V.

T BOARD TRANSISTOR TABLE

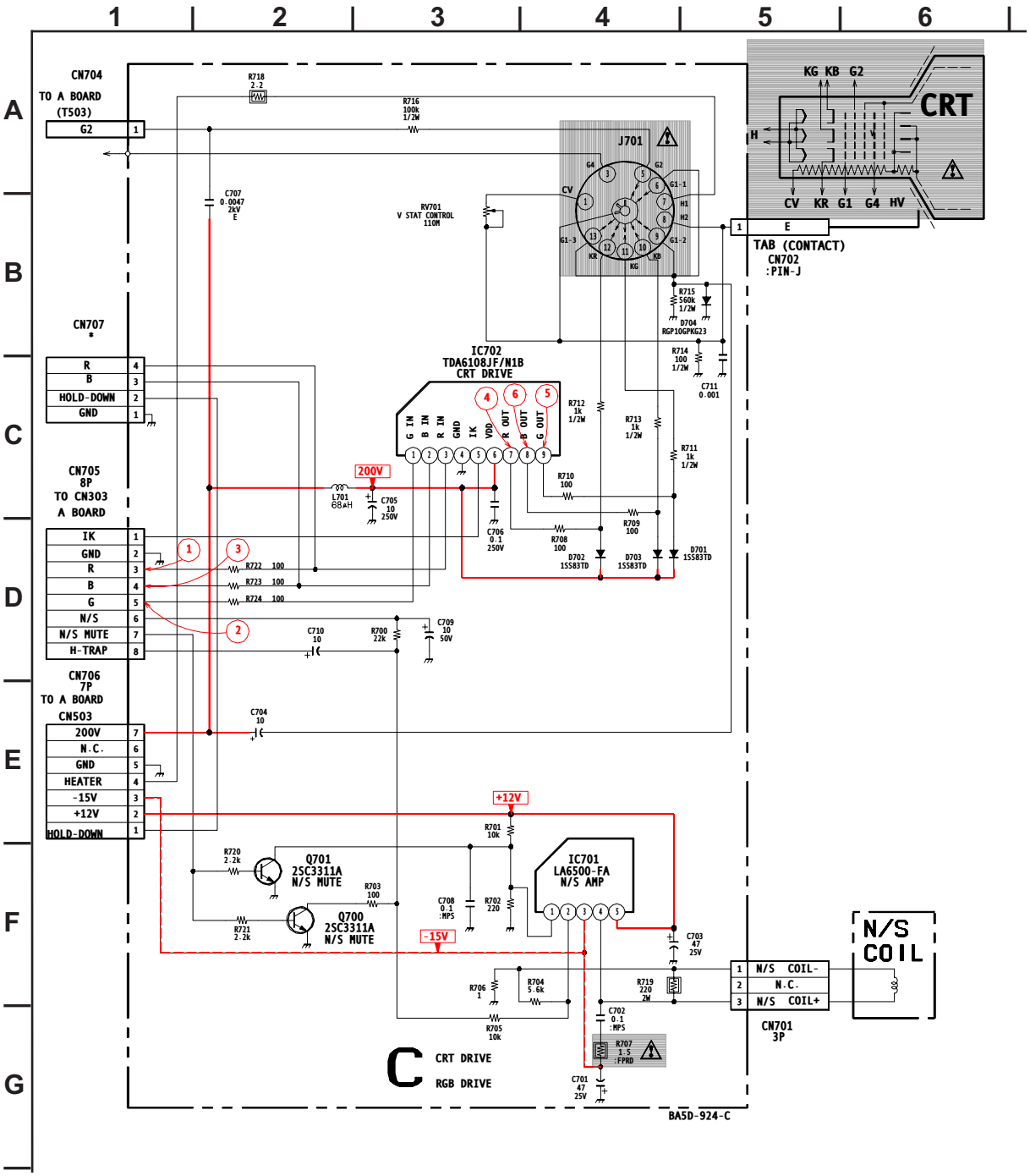
	B	C	E
Q401	0.1	3.4	0.8
Q402	0.1	3.4	0.8
Q403	8.3	9.0	9.0
Q404	1.0	0.0	0.4
Q405	1.0	0.0	0.4
Q406	1.0	2.9	0.5
Q407	1.0	2.9	0.5
Q408	1.0	2.9	0.5
Q409	1.0	2.9	0.5
Q410	1.0	0.0	0.5
Q411	1.0	0.0	0.5

All voltages are in V.

T [IR HEADPHONES] (KV-32FV300/36FV300 ONLY)

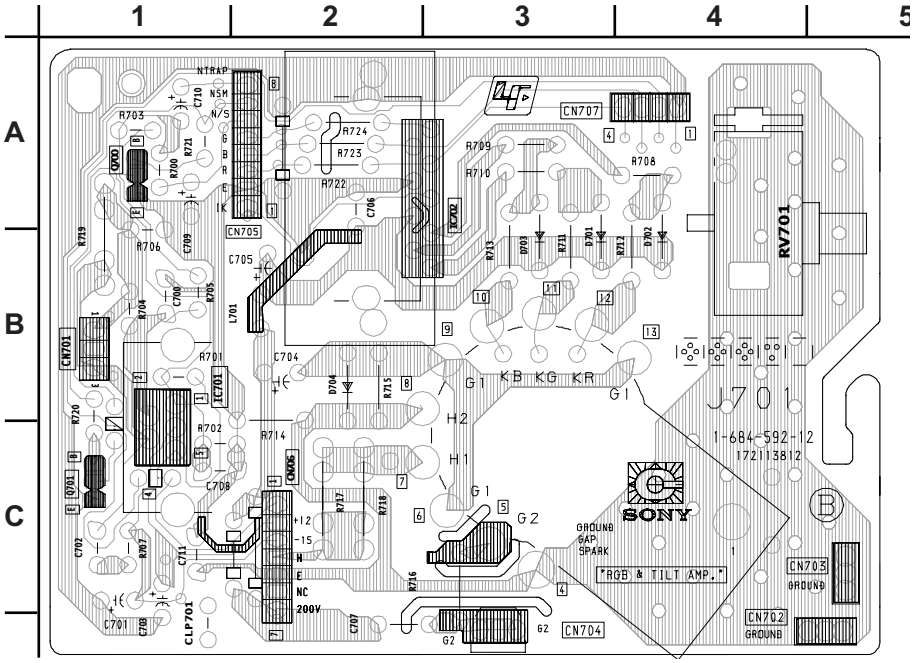


C BOARD SCHEMATIC DIAGRAM



C

[RGB DRIVE, CRT DRIVE]

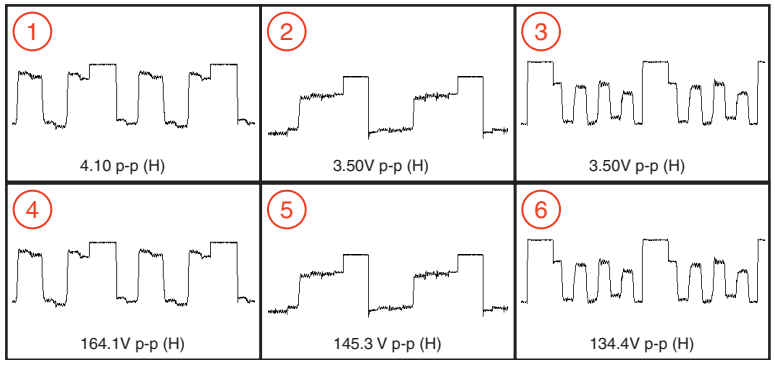


C BOARD IC VOLTAGE TABLE

IC701	
PIN	VOLT
1	0.3
2	0.3
3	-13.0
4	0.5
5	12.0
IC702	
PIN	VOLT
1	2.2
2	2.2
3	2.2
4	GND
5	5.0
6	200.0
7	139.7
8	142.0
9	138.6

All voltages are in V.

C BOARD WAVEFORM



C BOARD MARK(*) LIST

REF. NO.	LOCATION	KV-27FV300 KV-29FV300 KV-32FV300	KV-36FV300
CN707	B-1	#	4P

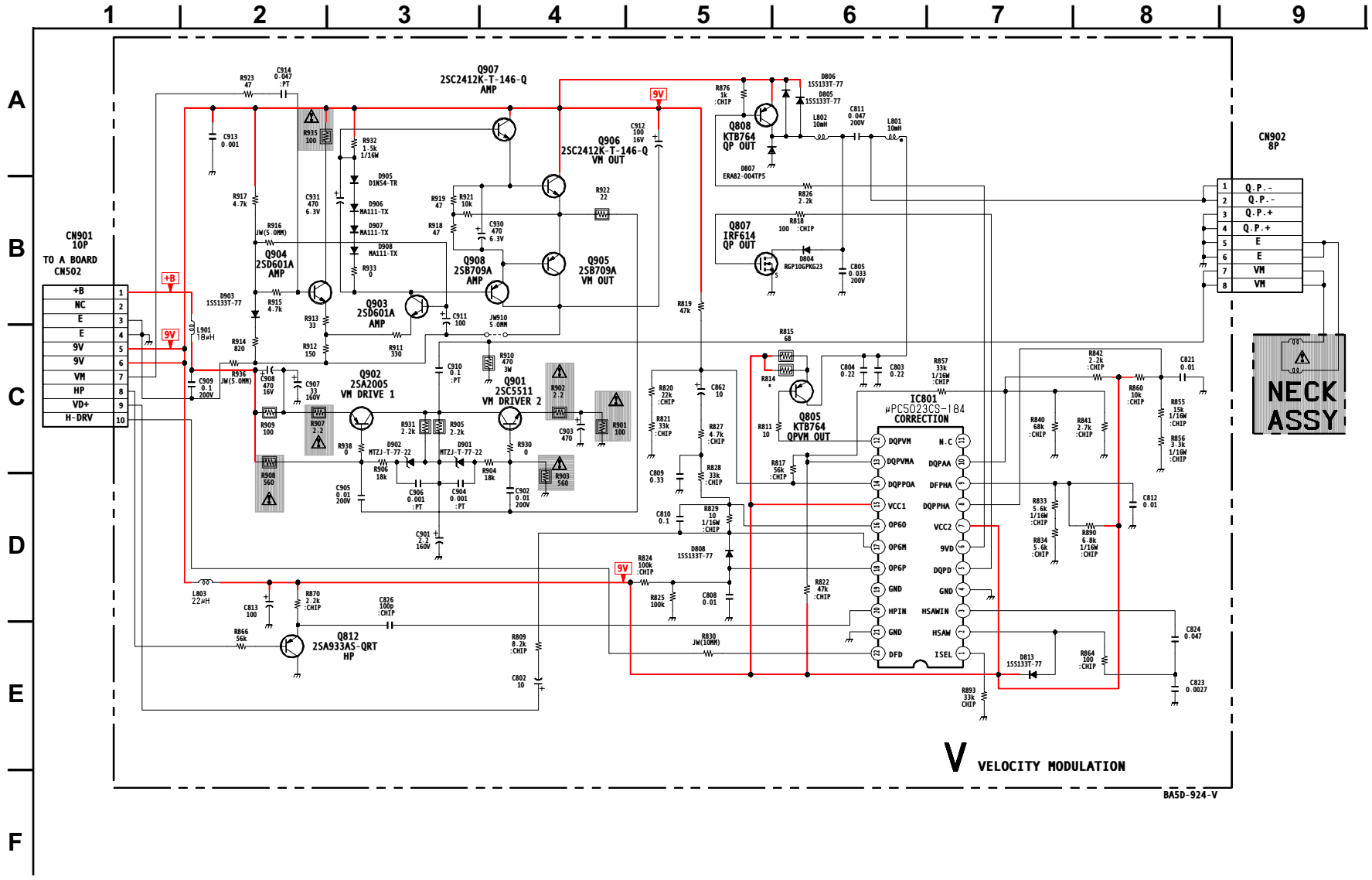
#: Not Mounted

C BOARD TRANSISTOR TABLE

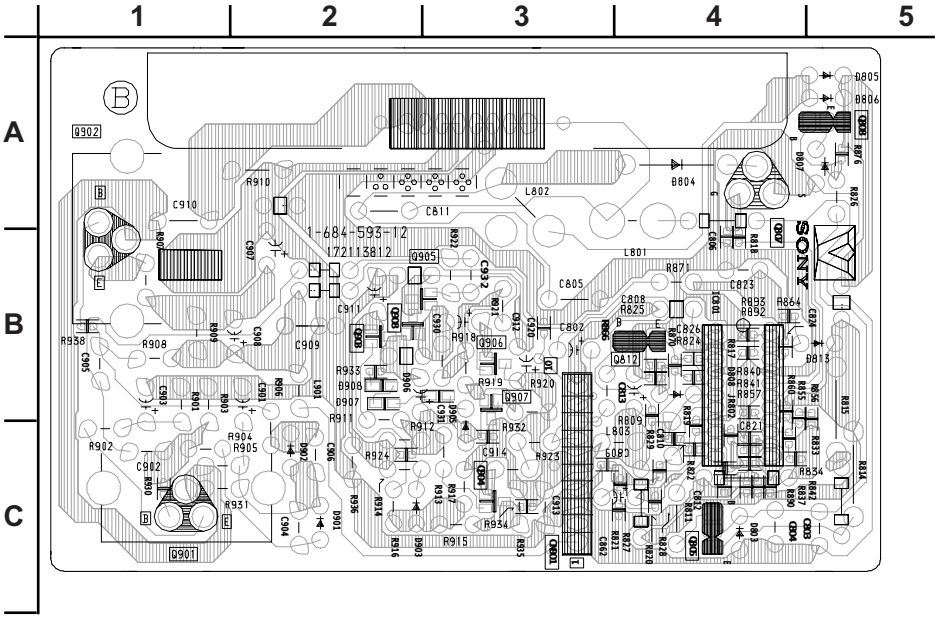
	B	C	E
Q700	0.3	0.8	GND
Q701	0.3	0.3	GND

All voltages are in V.

V BOARD SCHEMATIC DIAGRAM



V [VELOCITY MODULATION]



V BOARD MARK(*) LIST

REF. NO.	LOCATION	KV-27FV300 KV-29FV300	KV-32FV300 KV-36FV300
R814	C-6	#	68 1W

V BOARD IC VOLTAGE LIST

IC801		11	N/C
PIN	VOLT	12	3..5
1	7.4	13	3.8
2	2.3	14	4.5
3	4.8	15	9.0
4	GND	16	4.6
5	6.3	17	4.6
6	4.5	18	4.5
7	9.0	19	N/C
8	5.8	20	4.8
9	4.6	21	GND
10	4.8	22	0.3

All voltages are in V.

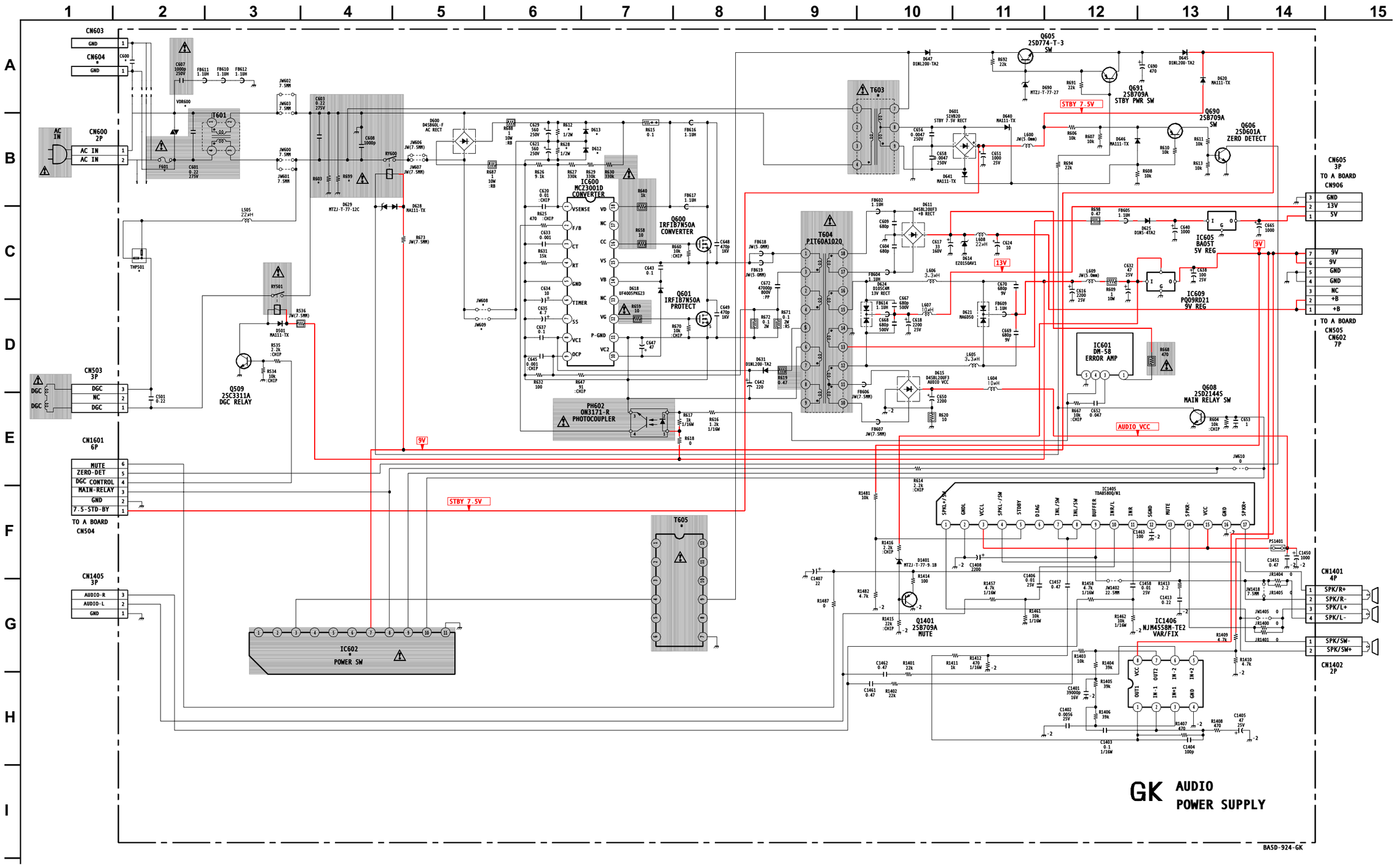
V BOARD TRANSISTOR TABLE

	B	C	E
Q805	3.5	1.8	4.2
Q808	8.6	4.3	9.0
Q812	1.3	GND	2.0
Q901	1.4	67.0	0.8
Q902	132.9	67.0	133.4
Q903	1.2	6.2	1.8
Q904	1.2	8.8	1.8
Q905	7.1	0.0	6.7
Q906	7.4	9.0	7.1
Q907	7.4	9.0	8.1
Q908	6.9	0.0	6.2

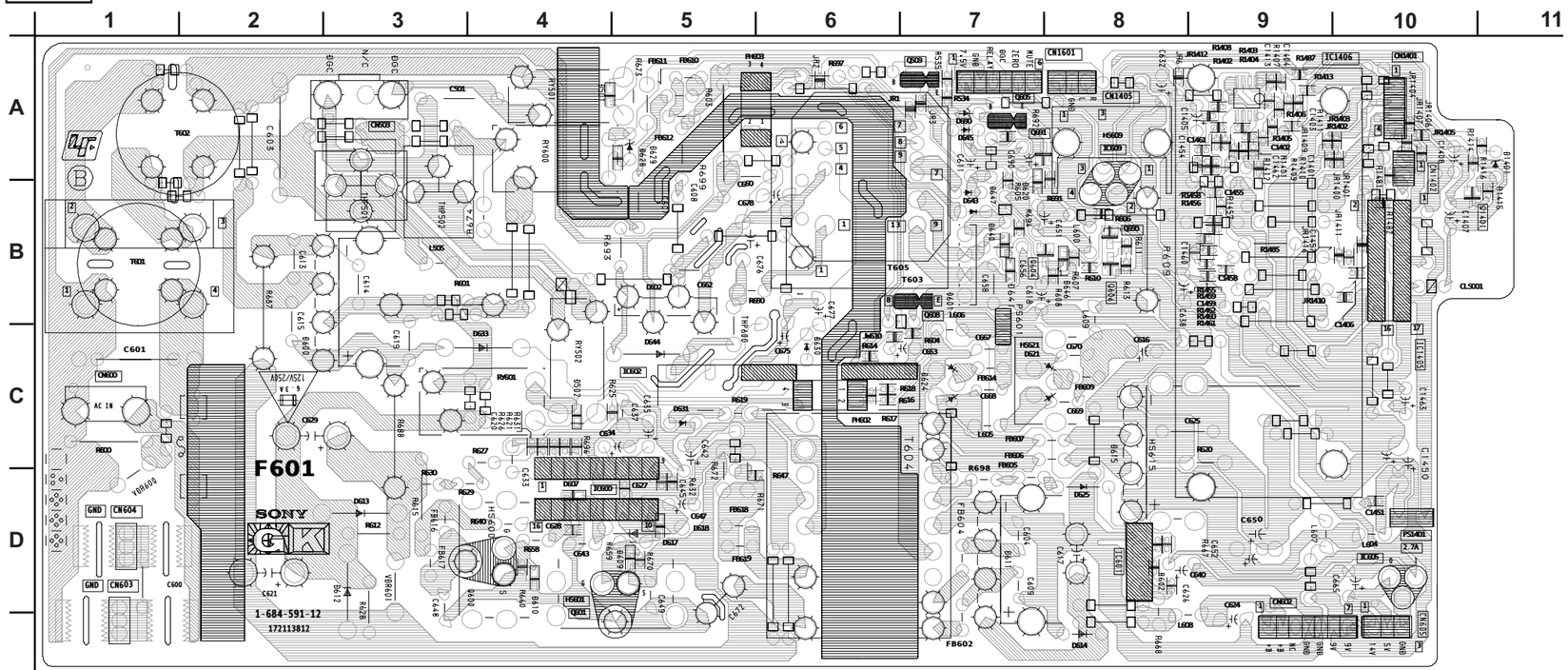
	D	G	S
Q807	9.5	6.3	GND

All voltages are in V.

GK BOARD SCHEMATIC DIAGRAM



GK [POWER SUPPLY, AUDIO]



GK BOARD LOCATOR LIST

DIODE		IC	
D1401	A-11	IC1405	C-10
D501	A-5	IC1406	A-10
D600	C-2	IC600	D-5
D601	C-7	IC601	D-8
D611	D-7	IC602	C-5
D612	D-3	IC605	D-10
D613	D-3	IC609	A-8
D614	E-8	**TRANSISTOR**	
D615	C-8	Q1401	B-11
D618	D-5	Q509	A-7
D620	B-7	Q600	D-4
D621	C-8	Q601	E-4
D624	C-7	Q605	A-7
D625	D-8	Q606	B-8
D628	A-5	Q608	C-7
D629	A-5	Q690	B-8
D631	C-5	Q691	A-8
D640	B-7		
D641	C-7		
D645	A-7		
D646	C-8		
D647	B-7		
D690	A-7		

GK BOARD MARK(*) LIST

REF. NO.	LOCATION	KV-27FV300 KV-29FV300(N) KV-32FV300	KV-29FV300(S)	KV-36FV300
C600	A-1	#	0.0047UF 250V	#
CN604	A-1	1P	#	1P
D612	B-6	8-719-068-00	#	8-719-068-00
D613	B-6	8-719-068-00	#	8-719-068-00
F601	B-2	6.3A/125V	6.3A/250V	6.3A/125V
IC602	G-4	#	#	1-761-541-11
JW608	D-5	7.5MM	#	7.5MM
JW609	D-5	7.5MM	#	7.5MM
R603	B-3	4.7M 1/2W	#	4.7M 1/2W
R612	B-6	#	470K 1/2W	#
R628	B-6	#	470K 1/2W	#
R699	B-3	#	8.2M 1W	#
T603	A-9	1-437-783-11	1-437-784-11	1-437-783-11
T605	F-7	#	#	1-437-785-11
THP501	C-1	1-804-313-11	1-803-540-11	1-803-629-11
VDR600	A-2	1-803-585-11	1-803-967-11	1-803-585-11

#: Not Mounted

GK BOARD IC VOLTAGE LIST

IC600		IC602		IC605		9	11.0
PIN	**VOLT**	**PIN**	**VOLT**	**PIN**	**VOLT**	10	4.0
1	-154.0	1	N/C	I	6.1	11	3.9
2	-155.0	2	N/C	O	5.0	12	GND
3	-154.8	3	18.5	G	GND	13	0.4
4	-154.4	4	N/C	**IC609**		14	9.9
5	-157.1	5	N/C	**PIN**	**VOLT**	15	14.0
6	-156.9	6	N/C	I	10.5	16	GND
7	-150.2	7	9.0	O	9.0	17	9.9
8	-138.8	8	0.0	G	GND	**IC1406**	
9	-157.1	9	0.6	**IC1405**		**PIN**	**VOLT**
10	-146.9	10	0.6	**PIN**	**VOLT**	1	4.6
11	-157.1	11	GND	1	10.1	2	4.6
12	-152.3	**IC601**		2	GND	3	4.6
13	N/C	**PIN**	**VOLT**	3	14.0	4	GND
14	7.0	1	134.6	4	10.1	5	4.6
15	-2.6	2	N/C	5	2.9	6	4.6
16	1.9	3	2.4	6	N/C	7	4.6
17	N/C	4	8.4	7	4.0	8	9.0
18	156.8	5	GND	8	4.0	All voltages are in V.	

GK BOARD TRANSISTOR TABLE

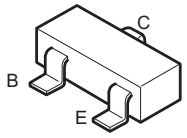
	B	C	E
Q509	0.3	10.5	GND
Q605	7.6	18.8	7.6
Q606	0.0	0.5	GND
Q608	0.6	0.0	GND
Q690	6.1	0.5	5.9
Q691	6.9	7.6	7.6
Q1401	0.0	GND	0.6

	D	G	S
Q600	156.9	2.5	-2.5
Q601	-2.6	-152.8	-157.4

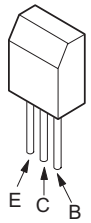
All voltages are in V.

5-4. SEMICONDUCTORS

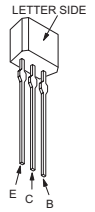
2SB709A-QRS-TX
2SD601A-QRS-TX
2SC2412K-T-146-QR



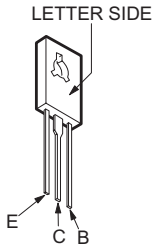
2SC3209LK-TP
2SD774-T-34



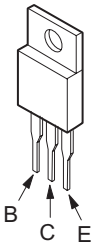
2SD1858-Q-TV2
2SC3311A-QRSTA
2SD2144S-TP-UVW



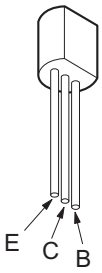
2SC3840K



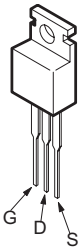
2SC4159-E



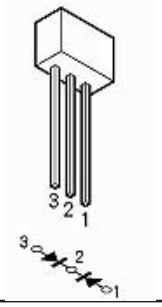
2SA1091O-TPE2



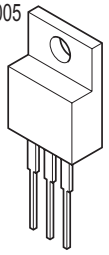
IRF614



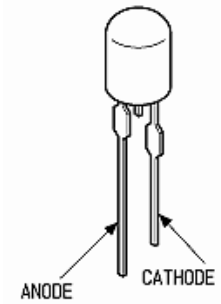
SVC203SPA-AL



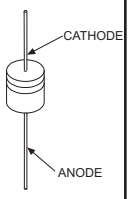
IRFIB7N50A-LF31
2SC5511
2SA2005



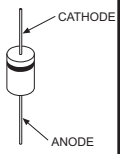
DAL5815



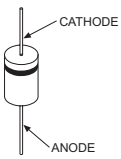
D1NS4-TA2
D1NS4-TR
ERA38-06TP1
ERA82-004TP5
1SS133T-77
MTZJ-T-77-3.3B
MTZJ-T-77-3.6B
MTZJ-T-77-3.9B
MTZJ-T-77-6.2B
MTZJ-T-77-6.8B
MTZJ-T-77-12C
MTZJ-T-77-15B
MTZJ-T-77-22



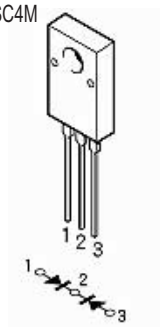
ERC06-15S
MTZJ-T-77-5.1C
MTZJ-T-77-5.6C
MTZJ-T-77-7.5A
MTZJ-T-77-9.1B
MTZJ-T-77-10B
MTZJ-T-77-30D
RGP10-GPKG3
RGP02-17PKG23
RGP15GPKG23



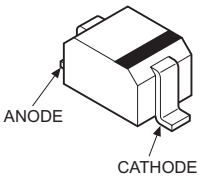
EL1Z-V1
ERB44-06TP1
ERC04-06SE
1SS83TD
1N4003GA
1N4937/23
GP08DPKG23
PR1004GT
RGP10GPKG23
RU4AM-T3



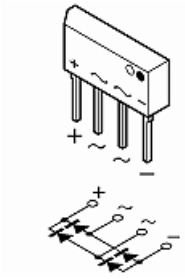
D10SC4M



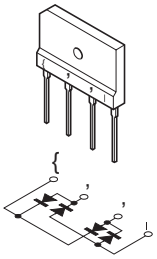
MA111-TX
UDZSTE-1710B



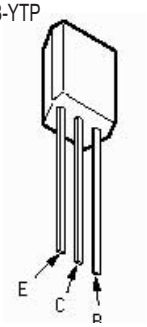
S1VB20



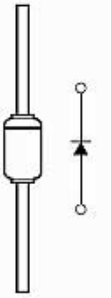
D4SB60L-F



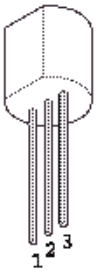
2SC2668-YTP



MTZJ-T-77-27



2SA933AS-QRT



SECTION 6: EXPLODED VIEWS

Components not identified by a part number or description are not stocked because they are seldom required for routine service.

The component parts of an assembly are indicated by the reference numbers in the far right column of the parts list and within the dotted lines of the diagram.

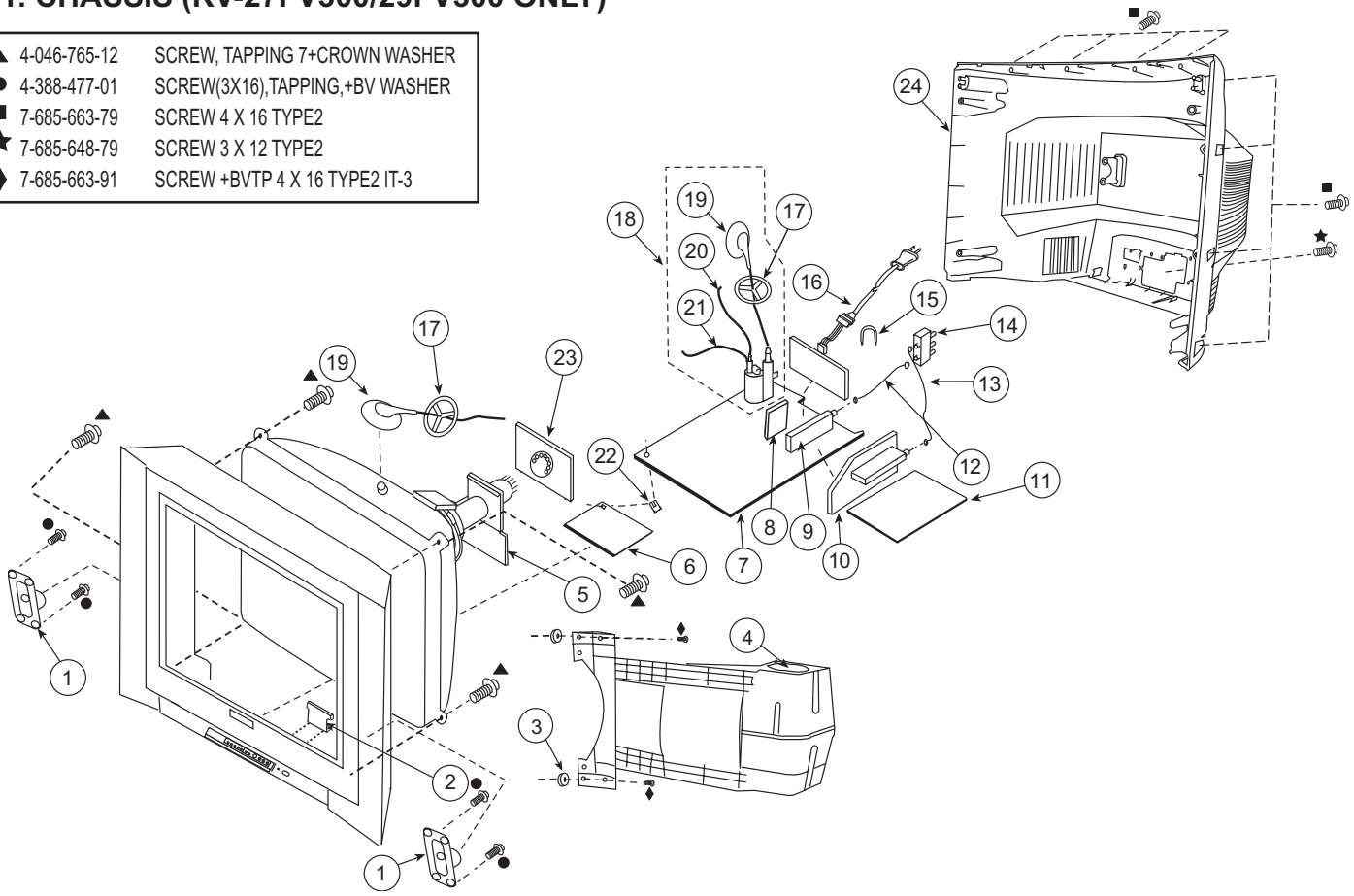
*** Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.**

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-1. CHASSIS (KV-27FV300/29FV300 ONLY)

▲	4-046-765-12	SCREW, TAPPING 7+CROWN WASHER
●	4-388-477-01	SCREW(3X16),TAPPING,+BV WASHER
■	7-685-663-79	SCREW 4 X 16 TYPE2
★	7-685-648-79	SCREW 3 X 12 TYPE2
♦	7-685-663-91	SCREW +BVTP 4 X 16 TYPE2 IT-3



	REF. NO.	PART NO.	DESCRIPTION [Assembly Includes]
	1	1-825-129-11	SPEAKER (6X12CM)
*	2	A-1400-459-A	HR (COM) MOUNTED PC BOARD
	3	4-374-745-31	CUSHION (A)
	4	1-825-128-11	SPEAKER (10CM)
*	5	A-1400-565-A	V (VAR) MOUNTED PC BOARD
*	6	A-1400-451-A	HU MOUNTED PC BOARD
*	7	A-1300-328-A	A COMPLETE PC BOARD The high-voltage leads associated with the FBT on this board are not included and must be ordered separately (SEE 19-21).
*	8	A-1400-450-A	BC MOUNTED PC BOARD
⚠	9	8-598-593-00	TUNER, FSS BTF-WA421
*	10	A-1400-456-A	P (VAR) MOUNTED PC BOARD
*	11	A-1400-452-A	GK (VAR) MOUNTED PC BOARD KV-27FV300/29FV300 (N)
*	11	A-1400-608-A	GK (VAR) MOUNTED PC BOARD KV-29FV300 (S)

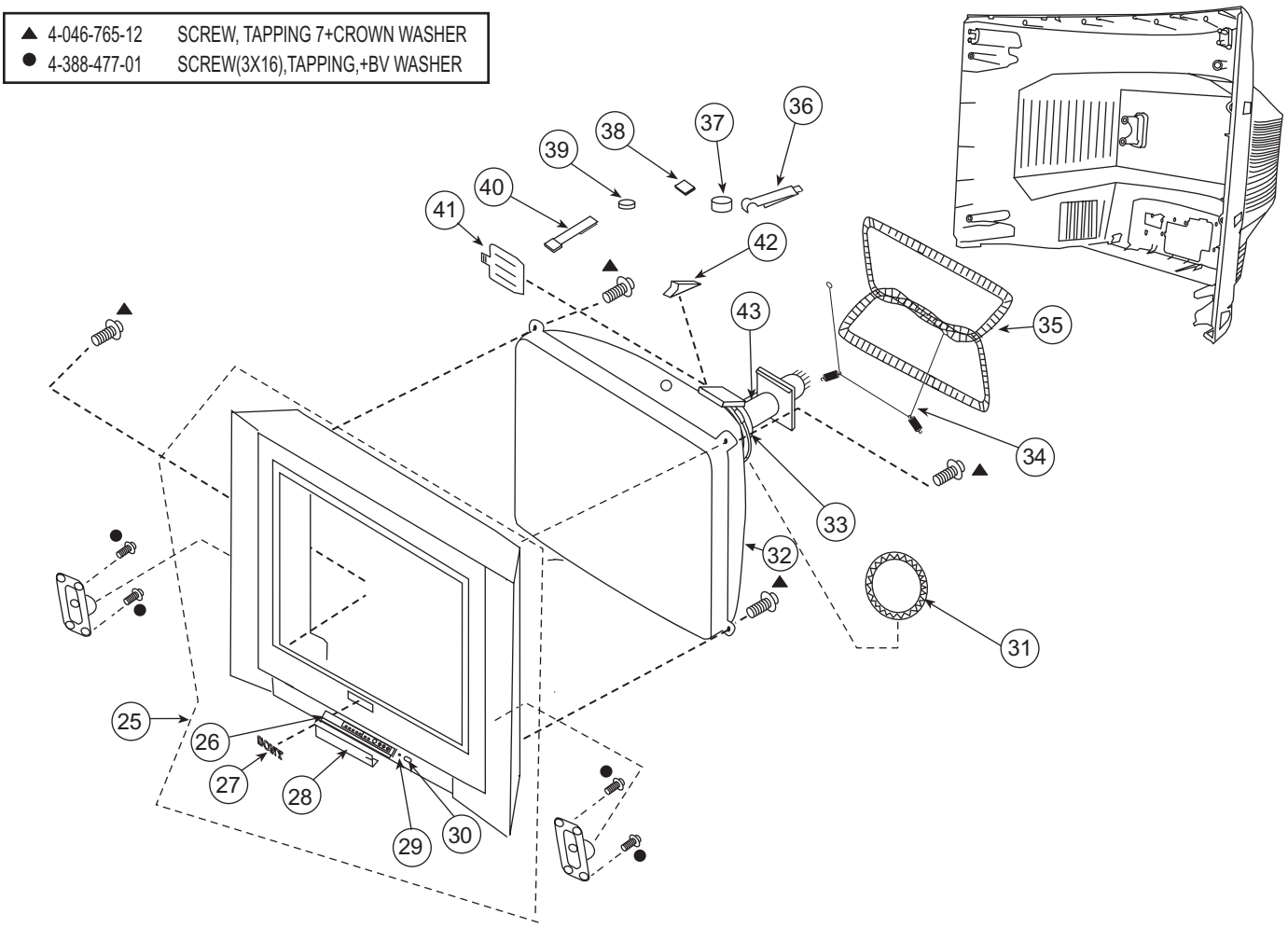
	REF. NO.	PART NO.	DESCRIPTION [Assembly Includes]
*	12	1-555-110-00	CABLE, P-P
*	13	1-558-539-21	CABLE, P-P
	14	1-771-787-12	SWITCH, RF ANTENNA
*	15	4-076-951-01	HINGE, PWB
⚠	16	1-791-935-12	CORD, AC POWER(WITH CONNECTOR) KV-27FV300/29FV300 (N)
⚠	16	1-769-796-31	CORD, POWER (WITH CONNECTOR) KV-29FV300 (S)
	17	4-084-918-01	HOLDER, HV CABLE
⚠	18	1-453-310-11	FBT ASSY NX-4521//X4J4 (19-21)
⚠	19	1-251-374-13	CAP ASSY, HIGH-VOLTAGE
⚠	20	1-900-800-82	WIRE ASSY, FOCUS
⚠	21	1-900-803-22	WIRE ASSY, G2 LEAD
*	22	3-696-606-02	HINGE, VI
*	23	A-1400-455-A	C (COM) MOUNTED PC BOARD
	24	4-087-777-01	COVER, REAR

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-2. PICTURE TUBE (KV-27FV300/29FV300 ONLY)

▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER
● 4-388-477-01 SCREW(3X16),TAPPING,+BV WASHER



REF. NO.	PART NO.	DESCRIPTION	[Assembly Includes]
25	X-4040-177-1	BEZNET ASSY	(26-30)
26	4-087-374-01	SPRING, DOOR	
27	4-046-160-21	EMBLEM, SONY (NO.9)	
28	4-087-375-01	DOOR, CONTROL	
29	4-087-156-01	GUIDE, LIGHT	
30	4-087-150-01	BUTTON, POWER	
⚠ 31	1-452-896-11	COIL, NA ROTATION (RT200)	
⚠ 32	8-735-082-05	CRT 29RSN(SDP)	
		KV-27FV300/29FV300 (N)	
⚠ 32	8-735-083-05	CRT 29RSN(SDP)(SOUTH)	
		KV-29FV300 (S)	
⚠ 33	8-451-494-41	DY Y29RSA-V	
34	4-036-329-01	SPRING (B), TENSION	

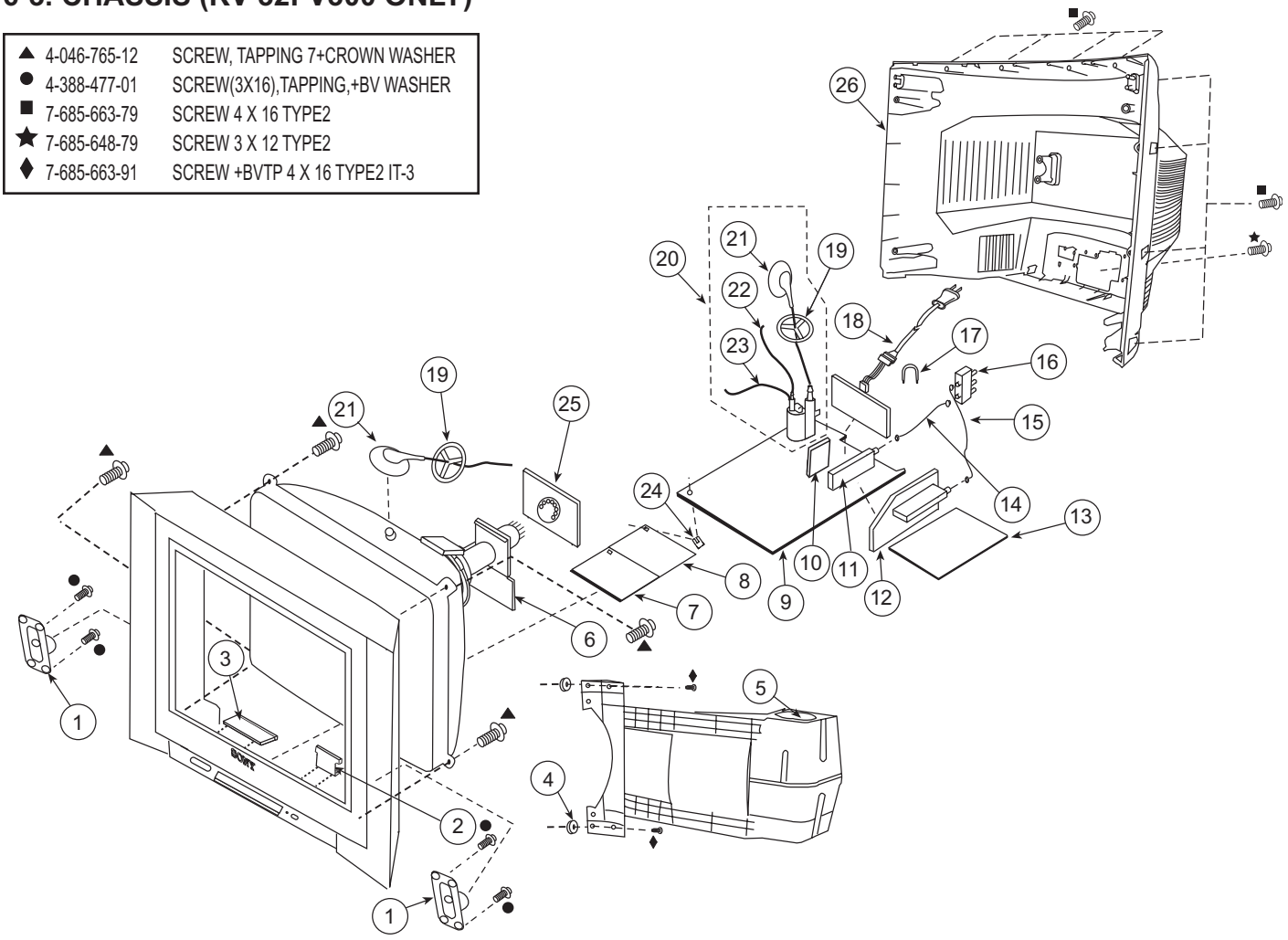
REF. NO.	PART NO.	DESCRIPTION	([Assembly Includes]
⚠ 35	1-419-156-21	COIL, DEGAUSSING	
		KV-27FV300/29FV300 (N)	
⚠ 35	1-419-523-21	COIL, DEGAUSSING	
		KV-29FV300 (S)	
* 36	4-062-970-12	CLIP (29RSN), DGC	
37	1-452-094-00	CIRCULAR DISC MAGNET B	
38	1-452-885-11	MAGNET, LANDING	
39	1-452-032-00	MAGNET, DISC	
40	4-083-414-01	PIECE A(110), CONV CORRECT	
41	4-081-170-01	PLATE, TLH CORRECTION	
42	4-053-005-01	SPACER, DY	
⚠ 43	8-453-011-11	NECK ASSEMBLY NA299-M	

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-3. CHASSIS (KV-32FV300 ONLY)

▲	4-046-765-12	SCREW, TAPPING 7+CROWN WASHER
●	4-388-477-01	SCREW(3X16),TAPPING,+BV WASHER
■	7-685-663-79	SCREW 4 X 16 TYPE2
★	7-685-648-79	SCREW 3 X 12 TYPE2
♦	7-685-663-91	SCREW +BVTP 4 X 16 TYPE2 IT-3



	REF. NO.	PART NO.	DESCRIPTION	[Assembly Includes]
	1	1-825-129-11	SPEAKER (6X12CM)	
*	2	A-1400-459-A	HR (COM) MOUNTED PC BOARD	
*	3	A-1400-460-A	T MOUNTED PC BOARD	
	4	4-374-745-31	CUSHION (A)	
	5	1-825-128-11	SPEAKER (10CM)	
*	6	A-1400-461-A	V (VAR) MOUNTED PC BOARD	
*	7	A-1400-451-A	HU MOUNTED PC BOARD	
*	8	A-1400-607-A	HD MOUNTED PC BOARD	
*	9	A-1300-278-A	A COMPLETE PC BOARD	
			The high-voltage leads associated with the FBT on this board are not included and must be ordered separately (SEE 21-23).	
*	10	A-1400-450-A	BC MOUNTED PC BOARD	
⚠	11	8-598-593-00	TUNER, FSS BTF-WA421	
*	12	A-1400-456-A	P (VAR) MOUNTED PC BOARD	

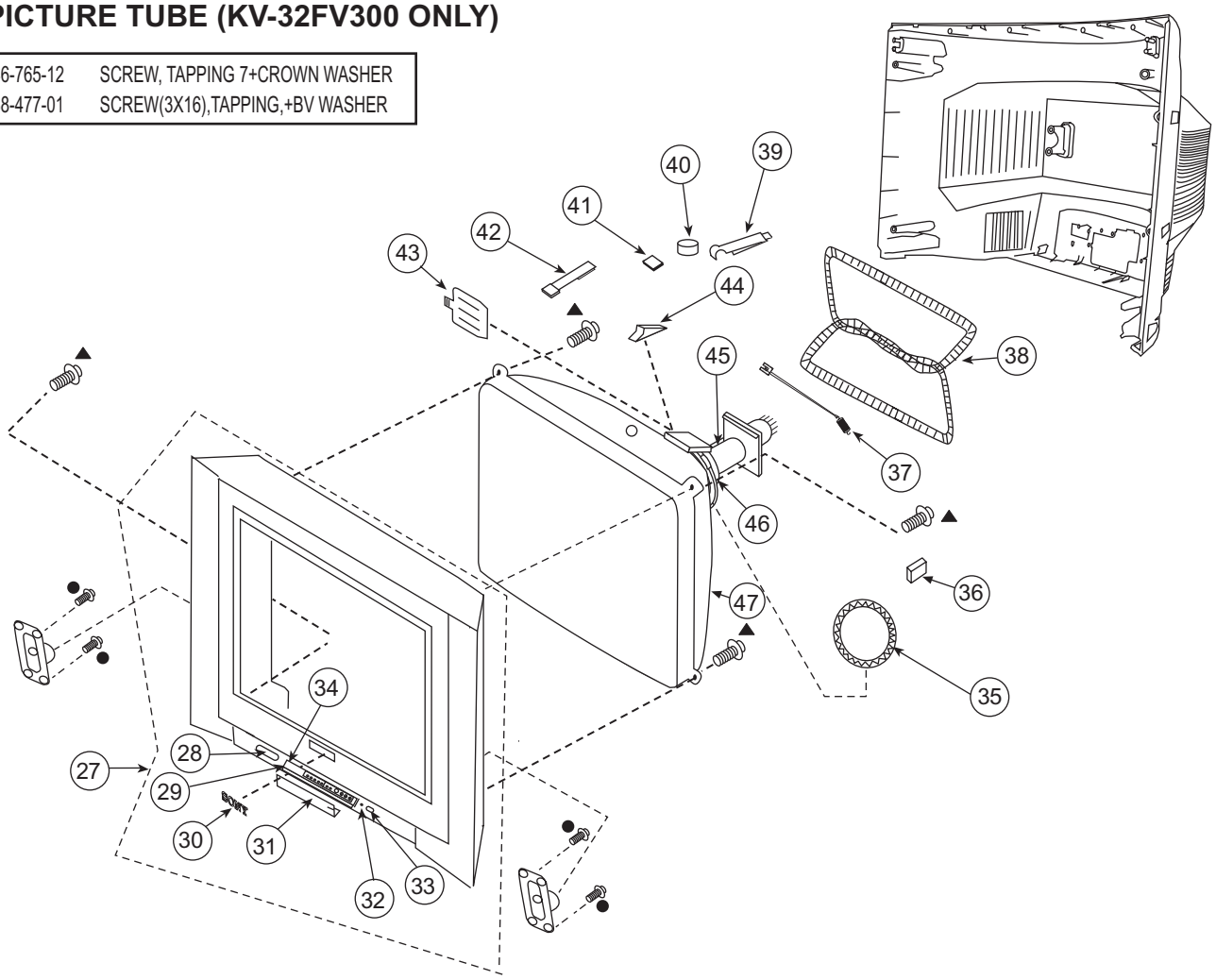
	REF. NO.	PART NO.	DESCRIPTION	([Assembly Includes]
*	13	A-1400-452-A	GK (VAR) MOUNTED PC BOARD	
*	14	1-555-110-00	CABLE, P-P	
*	15	1-558-539-21	CABLE, P-P	
	16	1-771-787-12	SWITCH, RF ANTENNA	
*	17	4-076-951-01	HINGE, PWB	
⚠	18	1-791-935-12	CORD, AC POWER(WITH CONNECTOR)	
	19	4-084-918-01	HOLDER, HV CABLE	
⚠	20	1-453-338-31	FBT ASSY NX-4600//X4C4	(21-23)
⚠	21	1-251-715-22	CAP ASSY, HIGH-VOLTAGE	
⚠	22	1-900-805-19	WIRE ASSY, FOCUS HV	
⚠	23	1-900-805-22	CONNECTOR ASSY, G2 HV	
*	24	3-696-606-02	HINGE, VI	
*	25	A-1400-455-A	C (COM) MOUNTED PC BOARD	
	26	4-087-878-01	COVER, REAR	

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-4. PICTURE TUBE (KV-32FV300 ONLY)

▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER
● 4-388-477-01 SCREW(3X16),TAPPING,+BV WASHER



	REF. NO.	PART NO.	DESCRIPTION	[Assembly Includes]
	27	X-4040-115-1	BEZNET ASSY	(28-34)
	28	4-086-887-01	PANEL, IR	
	29	4-087-374-01	SPRING, DOOR	
	30	4-046-160-21	EMBLEM, SONY (NO.9)	
	31	4-087-375-01	DOOR, CONTROL	
	32	4-087-156-01	GUIDE, LIGHT	
	33	4-087-150-01	BUTTON, POWER	
	34	4-036-880-11	DAMPER	
⚠	35	1-452-896-11	COIL, NA ROTATION (RT200)	
*	36	4-078-952-01	CUSHION, 20MM X 20MM	
	37	4-082-641-01	SPRING 45MM	

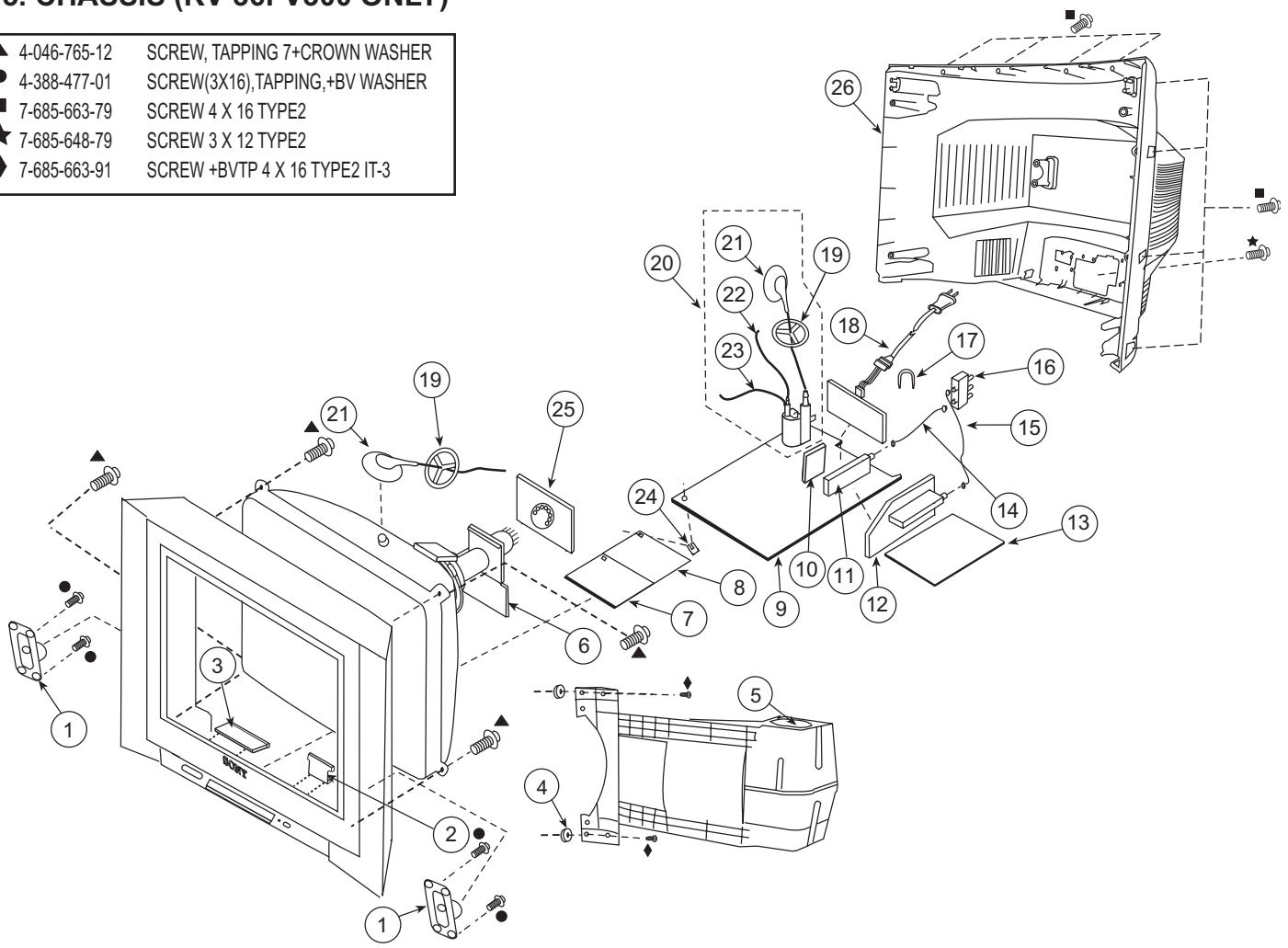
	REF. NO.	PART NO.	DESCRIPTION	([Assembly Includes]
⚠	38	1-428-988-11	DEGAUSSING COIL (32" 120V)	
	39	4-065-895-11	HOLDER, DGC	
	40	1-452-032-00	MAGNET,DISC	
	41	1-452-885-11	MAGNET, LANDING	
	42	4-083-414-01	PIECE A(110), CONV CORRECT	
	43	4-081-170-01	PLATE, TLH CORRECTION	
	44	4-053-005-01	SPACER, DY	
⚠	45	8-453-007-41	NECK ASSEMBLY NA324-M4	
⚠	46	8-451-499-41	DY Y34RSA-V	
⚠	47	8-735-066-05	CRT 34RSN(SDP)	

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-5. CHASSIS (KV-36FV300 ONLY)

▲	4-046-765-12	SCREW, TAPPING 7+CROWN WASHER
●	4-388-477-01	SCREW(3X16),TAPPING,+BV WASHER
■	7-685-663-79	SCREW 4 X 16 TYPE2
★	7-685-648-79	SCREW 3 X 12 TYPE2
♦	7-685-663-91	SCREW +BVTP 4 X 16 TYPE2 IT-3



	REF. NO.	PART NO.	DESCRIPTION [Assembly Includes]
	1	1-825-129-11	SPEAKER (6X12CM)
*	2	A-1400-459-A	HR (COM) MOUNTED PC BOARD
*	3	A-1400-460-A	T MOUNTED PC BOARD
	4	4-374-745-31	CUSHION (A)
	5	1-825-128-11	SPEAKER (10CM)
*	6	A-1400-581-A	V (VAR) MOUNTED PC BOARD
*	7	A-1400-451-A	HU MOUNTED PC BOARD
*	8	A-1400-607-A	HD MOUNTED PC BOARD
*	9	A-1300-336-A	A COMPLETE PC BOARD The high-voltage leads associated with the FBT on this board are not included and must be ordered separately (SEE 21-23).
*	10	A-1400-450-A	BC MOUNTED PC BOARD
⚠	11	8-598-593-00	TUNER, FSS BTF-WA421
*	12	A-1400-456-A	P (VAR) MOUNTED PC BOARD

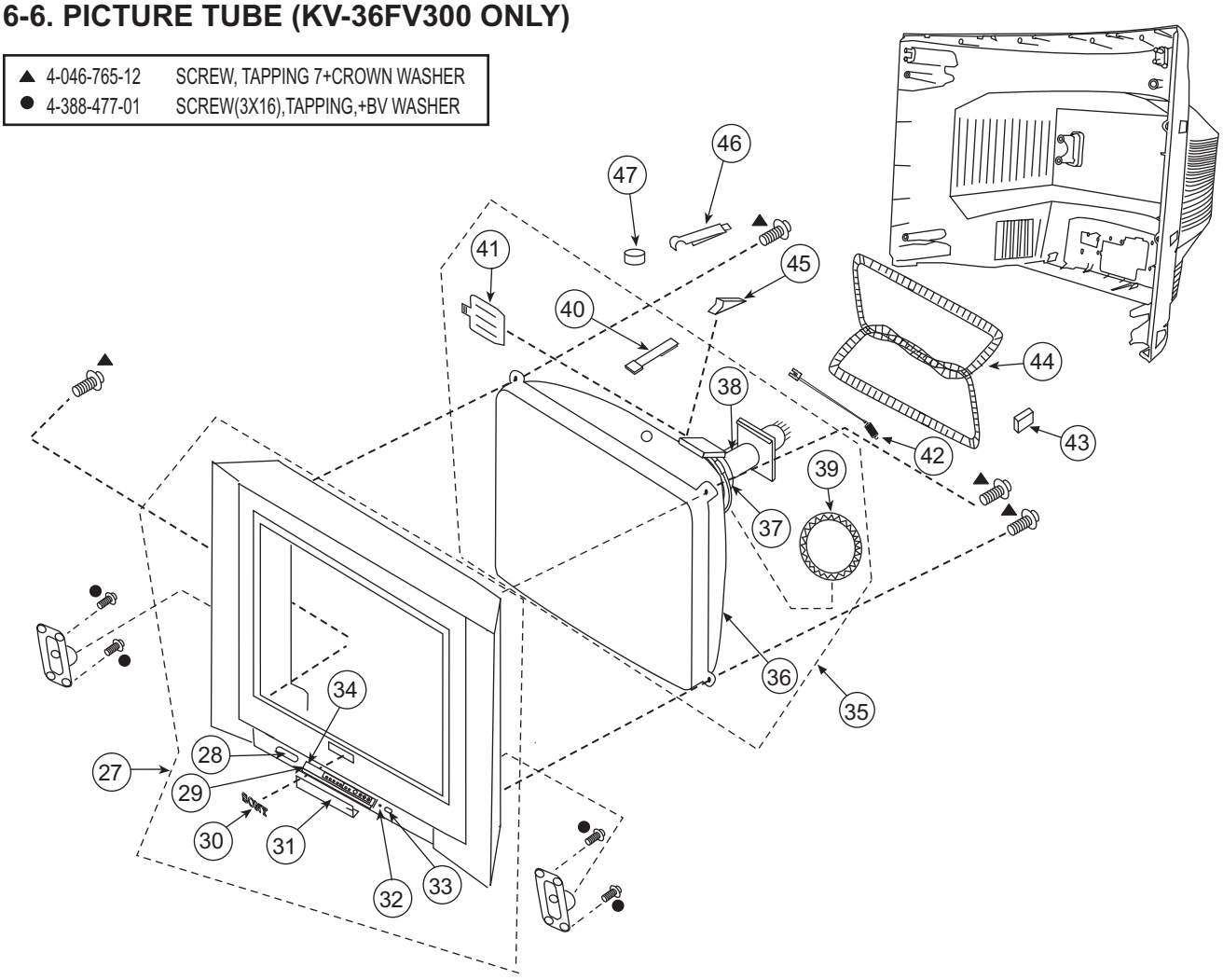
	REF. NO.	PART NO.	DESCRIPTION ([Assembly Includes]
*	13	A-1400-583-A	GK (VAR) MOUNTED PC BOARD
*	14	1-555-110-00	CABLE, P-P
*	15	1-558-539-21	CABLE, P-P
	16	1-771-787-12	SWITCH, RF ANTENNA
*	17	4-076-951-01	HINGE, PWB
⚠	18	1-791-935-12	CORD, AC POWER(WITH CONNECTOR)
	19	3-704-372-71	HOLDER, HV CABLE
⚠	20	1-453-338-21	FBT ASSY NX-4600//X4C4 (21-23)
⚠	21	1-251-715-32	CAP ASSY, HIGH-VOLTAGE
⚠	22	1-900-805-19	WIRE ASSY, FOCUS HV
⚠	23	1-900-805-22	CONNECTOR ASSY, G2 HV
*	24	3-696-606-02	HINGE, VI
*	25	A-1400-580-A	C (VAR) MOUNTED PC BOARD
	26	4-086-697-01	COVER, REAR

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-6. PICTURE TUBE (KV-36FV300 ONLY)

▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER
● 4-388-477-01 SCREW(3X16),TAPPING,+BV WASHER



REF. NO.	PART NO.	DESCRIPTION	[Assembly Includes]
27	X-4039-673-1	BEZNET ASSY	(27-34)
28	4-086-887-01	PANEL, IR	
29	4-087-374-01	SPRING, DOOR	
30	4-046-160-21	EMBLEM, SONY (NO.9)	
31	4-087-375-01	DOOR, CONTROL	
32	4-087-156-01	GUIDE, LIGHT	
33	4-087-150-01	BUTTON, POWER	
34	4-036-880-11	DAMPER	
⚠ 35	8-735-048-61	ITC 38RSN-A1	(36-41)
		KV-36FV300 (U) (CND)	
⚠ 35	8-735-081-61	ITC 38RSN-A1M	(36-41)
		KV-36FV300 (HAWAII)	
⚠ 36	8-735-045-05	CRT 38RSN/F73504801	
		KV-36FV300 (U) (CND)	
⚠ 36	8-735-081-05	CRT 38RSN	
		KV-36FV300 (HAWAII)	

REF. NO.	PART NO.	DESCRIPTION	([Assembly Includes]
⚠ 37	1-451-531-11	DY	
		KV-36FV300 (U) (CND)	
⚠ 37	8-451-506-11	DY Y38RSA-X	
		KV-36FV300 (HAWAII)	
⚠ 38	8-453-007-41	NECK ASSEMBLY, NA324-M4	
⚠ 39	1-452-896-11	COIL, NA ROTATION (RT200)	
40	4-062-047-02	PIECE A(110), CONV CORRECT	
41	4-081-170-01	PLATE, TLH CORRECTION	
42	4-082-641-01	SPRING, 45MM	
* 43	4-078-952-01	CUSHION, 20MM X 20MM	
⚠ 44	1-428-987-11	DEGAUSSING COIL (36" 120V)	
45	4-053-005-01	SPACER, DY	
46	4-065-895-11	HOLDER, DGC	
47	1-452-032-11	MAGNET,DISC	

SECTION 7: ELECTRICAL PARTS LIST

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components in this manual identified by the following symbol: ⋈ indicate parts that have been carefully factory-selected to satisfy regulations regarding X-ray radiation For each set.

Should replacement be required for one of these components, replace only with the value originally used.

*** Items marked with an asterisk are not stocked since they are seldom required For routine service. Expect some delay when ordering these components.**

RESISTORS

- **All resistors are in ohms**
- **F : nonflammable**
- **All variable and adjustable resistors have characteristic curve B, unless otherwise noted.**

When ordering parts by reference number, please include the board name.

REF. NO.	PART NO.	DESCRIPTION	VALUES

A

* **A-1300-278-A A BOARD, COMPLETE (KV-32FV300 ONLY)**

* **A-1300-328-A A BOARD, COMPLETE (KV-27FV300/29FV300 ONLY)**

* **A-1300-336-A A BOARD, COMPLETE (KV-36FV300 ONLY)**

4-382-854-11 SCREW (M3X10), P, SW (+)

The high-voltage leads associated with the FBT on the A board are not included and must be ordered separately. Order the following leads when requesting this A board:

⚠ 1-251-374-13 HV CAP ASSY
⚠ 1-900-800-82 FOCUS LEAD
⚠ 1-900-803-22 G2 LEAD
(KV-27FV300/29FV300 ONLY)

⚠ 1-251-715-22 HV CAP ASSY
⚠ 1-900-805-19 FOCUS LEAD
⚠ 1-900-805-22 G2 LEAD
(KV-32FV300 ONLY)

⚠ 1-251-715-32 HV CAP ASSY
⚠ 1-900-805-19 FOCUS LEAD
⚠ 1-900-805-22 G2 LEAD
(KV-36FV300 ONLY)

CAPACITOR

C001	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C002	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C003	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C004	1-126-947-11	ELECT	47µF	20%	25V
C005	1-164-739-11	CERAMIC CHIP	560pF	5%	50V
C006	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C007	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C008	1-126-960-11	ELECT	1µF	20%	50V
C009	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C014	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C015	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C016	1-126-941-11	ELECT	470µF	20%	25V
C017	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C018	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C020	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C026	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C027	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C028	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C029	1-126-960-11	ELECT	1µF	20%	50V
C030	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C031	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C032	1-126-964-11	ELECT	10µF	20%	50V
C033	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C034	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C035	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C036	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C037	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C038	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C039	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C041	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C043	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C044	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C045	1-126-964-11	ELECT	10µF	20%	50V
C046	1-126-964-11	ELECT	10µF	20%	50V
C047	1-126-941-11	ELECT	470µF	20%	25V
C048	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V
C049	1-126-964-11	ELECT	10µF	20%	50V
C050	1-126-941-11	ELECT	470µF	20%	25V
C051	1-126-947-11	ELECT	47µF	20%	25V
C052	1-162-968-11	CERAMIC CHIP	0.0047µF	10%	50V

A

REF. NO.	PART NO.	DESCRIPTION	VALUES		
C054	1-126-963-11	ELECT	4.7µF	20%	50V
C055	1-126-933-11	ELECT	100µF	20%	16V
C060	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C062	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C065	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C101	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V
C102	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V
C111	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C120	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C121	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C122	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C133	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C200	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C201	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C202	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C203	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C206	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C207	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C208	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C209	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C210	1-126-963-11	ELECT	4.7µF	20%	50V
C211	1-126-963-11	ELECT	4.7µF	20%	50V
C212	1-126-963-11	ELECT	4.7µF	20%	50V
C213	1-126-963-11	ELECT	4.7µF	20%	50V
C300	1-126-959-11	ELECT	0.47µF	20%	50V
C302	1-126-963-11	ELECT	4.7µF	20%	50V
C303	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C305	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C309	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C311	1-126-947-11	ELECT	47µF	20%	25V
C313	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C319	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C320	1-126-959-11	ELECT	0.47µF	20%	50V
C321	1-126-947-11	ELECT	47µF	20%	25V
C322	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C325	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C326	1-164-373-11	CERAMIC CHIP	0.033µF		25V
C327	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C330	1-126-964-11	ELECT	10µF	20%	50V
C333	1-126-963-11	ELECT	4.7µF	20%	50V
C335	1-162-918-11	CERAMIC CHIP	18pF	5%	50V
C337	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C338	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C339	1-113-619-11	CERAMIC CHIP	0.47µF		10V

REF. NO.	PART NO.	DESCRIPTION	VALUES		
C340	1-126-767-11	ELECT	1000µF	20%	16V
C341	1-126-947-11	ELECT	47µF	20%	25V
C343	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C344	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C345	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C346	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C347	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C351	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C352	1-126-947-11	ELECT	47µF	20%	25V
C353	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C354	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C355	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C356	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C357	1-126-960-11	ELECT	1µF	20%	50V
C358	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C359	1-162-961-11	CERAMIC CHIP	330pF	10%	50V
C360	1-126-960-11	ELECT	1µF	20%	50V
C364	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C365	1-162-117-00	CERAMIC	100pF	10%	500V
C366	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C367	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C368	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C371	1-115-156-11	CERAMIC CHIP	1µF		10V
C372	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C393	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C397	1-126-933-11	ELECT	100µF	20%	16V
C400	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C401	1-164-227-11	CERAMIC CHIP	0.022µF	10%	25V
C402	1-164-174-11	CERAMIC CHIP	0.0082µF	10%	25V
C403	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C404	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C405	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C406	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C407	1-162-965-11	CERAMIC CHIP	0.0015µF	10%	50V
C408	1-162-965-11	CERAMIC CHIP	0.0015µF	10%	50V
C409	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C410	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C411	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C412	1-126-961-11	ELECT	2.2µF	20%	50V
C413	1-126-960-11	ELECT	1µF	20%	50V
C414	1-126-960-11	ELECT	1µF	20%	50V
C415	1-126-960-11	ELECT	1µF	20%	50V
C416	1-126-960-11	ELECT	1µF	20%	50V
C417	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

A

REF. NO.	PART NO.	DESCRIPTION	VALUES		
C418	1-126-963-11	ELECT	4.7µF	20%	50V
C420	1-126-960-11	ELECT	1µF	20%	50V
C422	1-126-935-11	ELECT	470µF	20%	16V
C426	1-126-964-11	ELECT	10µF	20%	50V
C427	1-126-964-11	ELECT	10µF	20%	50V
C428	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C429	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C430	1-162-968-11	CERAMIC CHIP	0.0047µF	10%	50V
C431	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C432	1-104-665-11	ELECT	100µF	20%	25V
C433	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C434	1-162-968-11	CERAMIC CHIP	0.0047µF	10%	50V
C435	1-162-968-11	CERAMIC CHIP	0.0047µF	10%	50V
C442	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
	(KV-32FV300/36FV300 ONLY)				
C443	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
	(KV-32FV300/36FV300 ONLY)				
C452	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C453	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C501	1-102-110-00	CERAMIC	220pF	10%	50V
C502	1-126-959-11	ELECT	0.47µF	20%	50V
C503	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C504	1-102-228-00	CERAMIC	470pF	10%	500V
C505	1-102-228-00	CERAMIC	470pF	10%	500V
C506	1-106-383-00	MYLAR	0.047µF	10%	200V
⚠ C507	1-162-116-00	CERAMIC	680pF	10%	2KV
C508	1-102-228-00	CERAMIC	470pF	10%	500V
⚠ C509	1-162-116-00	CERAMIC	680pF	10%	2KV
C510	1-137-150-11	MYLAR	0.01µF	10%	100V
⚠ C511	1-117-652-11	FILM	22000pF	3%	1.2KV
	(KV-32FV300/36FV300 ONLY)				
⚠ C511	1-117-717-11	FILM	17000pF	3%	1.2KV
	(KV-27FV300/29FV300 ONLY)				
C512	1-129-709-91	FILM	0.0039µF	5%	630V
	(KV-27FV300/29FV300 ONLY)				
C512	1-129-928-00	FILM	0.0027µF	10%	630V
	(KV-32FV300/36FV300 ONLY)				
⚠ C513	1-129-722-00	FILM	0.047µF	5%	630V
	(KV-27FV300/29FV300 ONLY)				
⚠ C513	1-130-118-91	FILM	0.051µF	5%	400V
	(KV-32FV300/36FV300 ONLY)				
⚠ C514	1-109-844-11	FILM	0.68µF	5%	250V
	(KV-27FV300/29FV300 ONLY)				
⚠ C514	1-115-521-11	FILM	0.82µF	5%	250V
	(KV-32FV300/36FV300 ONLY)				

REF. NO.	PART NO.	DESCRIPTION	VALUES		
C515	1-104-987-11	MYLAR	0.001µF	10%	100V
⚠ C516	1-115-521-11	FILM	0.82µF	5%	250V
	(KV-32FV300/36FV300 ONLY)				
⚠ C516	1-115-522-11	FILM	1µF	5%	250V
	(KV-27FV300/29FV300 ONLY)				
C517	1-107-649-11	ELECT	2.2µF	20%	250V
C518	1-106-387-00	MYLAR	0.068µF	10%	200V
C519	1-107-612-11	CERAMIC	100pF	5%	500V
C520	1-164-646-11	CERAMIC	2200pF	10%	500V
C521	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C522	1-126-960-11	ELECT	1µF	20%	50V
C525	1-102-244-00	CERAMIC	220pF	10%	500V
C526	1-107-662-11	ELECT	22µF	20%	250V
⚠ C527	1-162-116-00	CERAMIC	680pF	10%	2KV
C528	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C529	1-128-551-11	ELECT	22µF	20%	25V
C530	1-130-475-00	MYLAR	0.0022µF	5%	50V
⚠ C531	1-126-965-91	ELECT	22µF	20%	50V
⚠ C532	1-126-965-91	ELECT	22µF	20%	50V
C534	1-126-967-11	ELECT	47µF	20%	50V
⚠ C535	1-136-165-00	FILM	0.1µF	5%	50V
C537	1-126-941-11	ELECT	470µF	20%	25V
C539	1-126-941-11	ELECT	470µF	20%	25V
C540	1-107-995-11	ELECT	100µF		160V
C541	1-128-560-11	ELECT	22µF	20%	100V
C544	1-129-718-00	FILM	0.022µF	5%	630V
C545	1-106-387-00	MYLAR	0.068µF	10%	200V
C546	1-104-987-11	MYLAR	0.001µF	10%	100V
	(KV-32FV300/36FV300 ONLY)				
C547	1-104-987-11	MYLAR	0.001µF	10%	100V
	(KV-32FV300/36FV300 ONLY)				
C550	1-102-002-00	CERAMIC	680pF	10%	500V
	(KV-32FV300/36FV300 ONLY)				
C550	1-164-735-11	CERAMIC	0.0015µF	10%	500V
	(KV-27FV300/29FV300 ONLY)				
C551	1-109-954-11	ELECT	0.47µF	20%	160V
C552	1-102-244-00	CERAMIC	220pF	10%	500V
⚠ C553	1-107-846-11	FILM	0.1µF	5%	250V
	(KV-27FV300/29FV300 ONLY)				
⚠ C553	1-117-667-11	FILM	0.47µF	5%	250V
	(KV-32FV300/36FV300 ONLY)				
⚠ C554	1-117-629-11	FILM	2700pF	3%	1.2KV
	(KV-27FV300/29FV300 ONLY)				

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

A

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
⚠	C554	1-117-635-11	FILM	4700pF	3%	1.2KV
		(KV-32FV300/36FV300 ONLY)				
	C561	1-126-967-11	ELECT	47µF	20%	50V
	C563	1-104-666-11	ELECT	220µF	20%	25V
	C564	1-126-960-11	ELECT	1µF	20%	50V
	C565	1-126-969-11	ELECT	220µF	20%	50V
	C568	1-136-169-00	FILM	0.22µF	5%	50V
	C571	1-126-942-61	ELECT	1000µF	20%	25V
	C572	1-126-942-61	ELECT	1000µF	20%	25V
⚠	C590	1-126-964-11	ELECT	10µF	20%	50V
	C1501	1-107-846-11	FILM	0.1µF	5%	250V
		(KV-32FV300/36FV300 ONLY)				
	C6001	1-126-940-11	ELECT	330µF	20%	25V
	C6002	1-126-947-11	ELECT	47µF	20%	25V
	C6003	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
	C6005	1-126-768-11	ELECT	2200µF	20%	16V
		CONNECTOR				
*	CN001	1-560-124-00	PLUG,CONNECTOR	(2.5MM)	4P	
*	CN002	1-564-507-11	PLUG,CONNECTOR		4P	
*	CN003	1-564-509-11	PLUG,CONNECTOR		6P	
*	CN004	1-564-507-11	PLUG,CONNECTOR		4P	
*	CN005	1-564-508-11	PLUG,CONNECTOR		5P	
*	CN006	1-564-506-11	PLUG,CONNECTOR		3P	
*	CN303	1-564-511-11	PLUG,CONNECTOR		8P	
	CN306	1-573-298-21	CONNECTOR, BOARD TO BOARD		20P	
*	CN401	1-564-508-11	PLUG,CONNECTOR		5P	
		(KV-32FV300/36FV300 ONLY)				
*	CN410	1-564-506-11	PLUG,CONNECTOR		3P	
*	CN501	1-580-798-11	CONNECTOR PIN (DY)		6P	
*	CN502	1-764-333-11	PLUG,CONNECTOR		10P	
*	CN503	1-564-510-11	PLUG,CONNECTOR		7P	
*	CN504	1-564-509-11	PLUG,CONNECTOR		6P	
*	CN505	1-564-510-11	PLUG,CONNECTOR		7P	
	CN600	1-695-915-11	TAB (CONTACT)			
*	CN906	1-564-506-11	PLUG,CONNECTOR		3P	
*	CN3300	1-691-616-21	CONNECTOR, BOARD TO BOARD		15P	
*	CN3301	1-691-616-21	CONNECTOR, BOARD TO BOARD		15P	
		DIODE				
	D002	8-719-921-44	DIODE MTZJ-T-77-5.1C			
	D004	8-719-921-44	DIODE MTZJ-T-77-5.1C			
	D005	8-719-110-17	DIODE MTZJ-T-77-10B			
	D006	8-719-110-17	DIODE MTZJ-T-77-10B			
	D007	8-719-404-50	DIODE MA111-TX			
	D008	8-719-404-50	DIODE MA111-TX			
	D009	8-719-982-22	DIODE MTZJ-T-77-30D			
	D010	8-719-921-44	DIODE MTZJ-T-77-5.1C			
	D110	8-719-991-33	DIODE 1SS133T-77			
	D111	8-719-109-93	DIODE MTZJ-T-77-6.2B			
	D112	8-719-109-93	DIODE MTZJ-T-77-6.2B			
	D113	8-719-921-44	DIODE MTZJ-T-77-5.1C			
	D200	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D201	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D209	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D210	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D211	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D212	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D213	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D217	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D218	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D219	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D302	8-719-981-99	DIODE MTZJ-T-77-3.3			
	D303	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D304	8-719-921-44	DIODE MTZJ-T-77-5.1C			
	D305	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D306	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D307	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D308	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D309	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D310	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D311	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D312	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D313	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D320	8-719-991-33	DIODE 1SS133T-77			
	D410	8-719-404-50	DIODE MA111-TX			
	D412	8-719-404-50	DIODE MA111-TX			
	D413	8-719-921-63	DIODE MTZJ-T-77-7.5B			
	D415	8-719-991-33	DIODE 1SS133T-77			
	D501	8-719-109-89	DIODE MTZJ-T-77-5.6C			
	D502	8-719-945-80	DIODE ERC06-15S			
⚠	D503	8-719-945-80	DIODE ERC06-15S			
	D504	8-719-312-10	DIODE RU4AM-T3			
	D505	8-719-908-03	DIODE GP08DPKG23			
	D506	8-719-908-03	DIODE GP08DPKG23			
	D507	8-719-991-33	DIODE 1SS133T-77			
⚠	D508	8-719-991-33	DIODE 1SS133T-77			
	D510	8-719-081-93	DIODE 1N4937/23			
	D511	8-719-970-87	DIODE ERA38-06TP1			

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

A

REF. NO.	PART NO.	DESCRIPTION	VALUES
D512	8-719-970-87	DIODE ERA38-06TP1	
D513	8-719-110-41	DIODE MTZJ-T-77-15B	
⚠ D515	8-719-075-41	DIODE PR1004GT	
D516	8-719-991-33	DIODE 1SS133T-77	
D518	8-719-991-33	DIODE 1SS133T-77	
⚠ D519	8-719-302-43	DIODE EL1Z-V1	
⚠ D520	8-719-991-33	DIODE 1SS133T-77	
D521	8-719-921-63	DIODE MTZJ-T-77-7.5X	
⚠ D522	8-719-991-33	DIODE 1SS133T-77	
D523	8-719-109-69	DIODE MTZJ-T-77-3.6B	
D524	8-719-109-97	DIODE MTZJ-T-77-6.8B	
⚠ D530	8-719-979-85	DIODE RGP15GPKG23	
D531	8-719-979-85	DIODE RGP15GPKG23	
D534	8-719-302-43	DIODE RGP10GPKG23	
D535	8-719-404-50	DIODE MA111-TX	
D536	8-719-404-50	DIODE MA111-TX	
D561	8-719-075-33	DIODE 1N4003GA	
⚠ D580	8-719-991-33	DIODE 1SS133T-77	
D590	8-719-991-33	DIODE 1SS133T-77	
	FERRITE BEAD		
FB501	1-410-397-21	FERRITE	1.1µH
FB502	1-410-397-21	FERRITE	1.1µH
FB503	1-410-397-21	FERRITE	1.1µH
	IC		
IC001	6-801-165-01	IC M306V5ME-109SP	
IC002	6-701-929-01	IC BD4743G-TR	
IC003	8-759-641-86	IC BR24C16F-E2	
IC301	8-752-100-49	IC CXA2154AS	
IC400	6-701-106-01	IC NJW1134GK1-TE2	
IC402	8-759-689-71	IC NJM2188M-TE2	
IC403	6-702-114-01	IC BU4051BCF-E2	
	(KV-32FV300/36FV300 ONLY)		
IC404	6-702-114-01	IC BU4051BCF-E2	
	(KV-32FV300/36FV300 ONLY)		
IC501	8-759-700-07	IC NJM2903M-TE2	
⚠ IC561	8-759-696-71	IC STV9379	
	(KV-32FV300/36FV300 ONLY)		
⚠ IC561	8-759-980-58	IC TDA8172	
	(KV-27FV300/29FV300 ONLY)		
IC6008	6-701-752-01	IC NJM2930F05	

REF. NO.	PART NO.	DESCRIPTION	VALUES
	JACK		
J201	1-794-119-11	TERMINAL BLOCK, S	4P
J203	1-794-118-11	JACK BLOCK, PIN	3P
J204	1-794-118-11	JACK BLOCK, PIN	3P
J205	1-794-116-11	JACK BLOCK, PIN	2P
J206	1-794-117-11	JACK BLOCK, PIN	3P
J207	1-794-116-11	JACK BLOCK, PIN	2P
	CHIP CONDUCTOR		
JR1	1-216-864-11	SHORT	
JR2	1-216-864-11	SHORT	
JR4	1-216-864-11	SHORT	
JR5	1-216-864-11	SHORT	
JR8	1-216-864-11	SHORT	
JR9	1-216-864-11	SHORT	
JR10	1-216-864-11	SHORT	
	(KV-32FV300/36FV300 ONLY)		
JR12	1-216-864-11	SHORT	
JR13	1-216-864-11	SHORT	
JR14	1-216-864-11	SHORT	
JR15	1-216-864-11	SHORT	
JR202	1-216-864-11	SHORT	
JR301	1-216-864-11	SHORT	
JR302	1-216-864-11	SHORT	
JR303	1-216-864-11	SHORT	
JR304	1-216-864-11	SHORT	
JR305	1-216-864-11	SHORT	
JR306	1-216-864-11	SHORT	
JR401	1-216-864-11	SHORT	
JR402	1-216-864-11	SHORT	
JR403	1-216-864-11	SHORT	
	COIL		
L001	1-410-482-31	INDUCTOR	100µH
L002	1-410-482-31	INDUCTOR	100µH
L003	1-412-029-11	INDUCTOR	10µH
L004	1-410-482-31	INDUCTOR	100µH
L009	1-410-482-31	INDUCTOR	100µH
L010	1-414-182-11	INDUCTOR	6.8µH
L300	1-410-482-31	INDUCTOR	100µH
L301	1-410-482-31	INDUCTOR	100µH
L302	1-412-029-11	INDUCTOR	10µH
L303	1-410-478-11	INDUCTOR	47µH

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

A

REF. NO.	PART NO.	DESCRIPTION	VALUES
L304	1-410-470-11	INDUCTOR	10µH
L501	1-406-677-11	INDUCTOR	10MH
L502	1-412-552-11	INDUCTOR	2.2MH
L503	1-406-677-11	INDUCTOR	10MH
L504	1-406-677-11	INDUCTOR	10MH
⚠ L505	1-406-976-11	INDUCTOR	68µH
	(KV-32FV300/36FV300 ONLY)		
⚠ L505	1-406-978-11	INDUCTOR	150µH
	(KV-27FV300/29FV300 ONLY)		
L511	1-409-955-11	INDUCTOR	8MH
L517	1-412-552-11	INDUCTOR	2.2MH

TRANSISTOR

Q001	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q002	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
⚠ Q003	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q004	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q005	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q010	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q110	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q300	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q304	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q305	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q306	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q307	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q308	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q309	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q314	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q315	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q316	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q317	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q319	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q325	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q326	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q400	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q401	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q402	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q403	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q404	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
	(KV-32FV300/36FV300 ONLY)	
Q405	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
	(KV-32FV300/36FV300 ONLY)	
Q406	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
	(KV-32FV300/36FV300 ONLY)	
Q407	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q501	8-729-140-50	TRANSISTOR 2SC3209LK-TP
⚠ Q502	6-550-107-01	TRANSISTOR 2SD2645-YB
Q507	8-729-043-95	TRANSISTOR 2SC3840K
⚠ Q511	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR
⚠ Q512	8-729-809-29	TRANSISTOR 2SC4159-E
⚠ Q530	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
⚠ Q531	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
⚠ Q532	8-729-200-17	TRANSISTOR 2SA1091O-TPE2
Q561	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q562	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR
⚠ Q590	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q6000	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX

RESISTOR

R001	1-249-429-11	CARBON	10K	5%	1/4W
R002	1-249-409-11	CARBON	220	5%	1/4W
R003	1-216-817-11	RES-CHIP	470	5%	1/10W
R004	1-216-857-11	RES-CHIP	1M	5%	1/10W
R005	1-216-821-11	RES-CHIP	1K	5%	1/10W
R006	1-249-417-11	CARBON	1K	5%	1/4W
R007	1-216-833-11	RES-CHIP	10K	5%	1/10W
R009	1-216-864-11	SHORT			
R010	1-249-409-11	CARBON	220	5%	1/4W
R011	1-216-821-11	RES-CHIP	1K	5%	1/10W
R012	1-216-827-11	RES-CHIP	3.3K	5%	1/10W
R013	1-216-833-11	RES-CHIP	10K	5%	1/10W
R015	1-216-813-11	RES-CHIP	220	5%	1/10W
R016	1-216-813-11	RES-CHIP	220	5%	1/10W
R017	1-216-813-11	RES-CHIP	220	5%	1/10W
R018	1-216-813-11	RES-CHIP	220	5%	1/10W
R019	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R020	1-218-688-11	METAL CHIP	680	0.50%	1/16W
R021	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R022	1-218-688-11	METAL CHIP	680	0.50%	1/16W
R023	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R024	1-218-688-11	METAL CHIP	680	0.50%	1/16W
R025	1-216-813-11	RES-CHIP	220	5%	1/10W
R027	1-216-813-11	RES-CHIP	220	5%	1/10W
R029	1-249-409-11	CARBON	220	5%	1/4W
R030	1-216-841-11	RES-CHIP	47K	5%	1/10W
R031	1-216-809-11	RES-CHIP	100	5%	1/10W
R032	1-216-813-11	RES-CHIP	220	5%	1/10W
R033	1-249-417-11	CARBON	1K	5%	1/4W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

A

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
	R034	1-216-813-11	RES-CHIP	220	5%	1/10W
	R035	1-216-813-11	RES-CHIP	220	5%	1/10W
	R037	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R038	1-249-417-11	CARBON	1K	5%	1/4W
	R039	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R048	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R050	1-216-833-11	RES-CHIP	10K	5%	1/10W
	R051	1-216-857-11	RES-CHIP	1M	5%	1/10W
	R052	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R053	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R054	1-249-417-11	CARBON	1K	5%	1/4W
	R055	1-216-841-11	RES-CHIP	47K	5%	1/10W
	R056	1-216-813-11	RES-CHIP	220	5%	1/10W
	R057	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R058	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R060	1-249-409-11	CARBON	220	5%	1/4W
	R061	1-249-437-11	CARBON	47K	5%	1/4W
⚠	R063	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R064	1-216-813-11	RES-CHIP	220	5%	1/10W
	R065	1-216-841-11	RES-CHIP	47K	5%	1/10W
	R066	1-249-429-11	CARBON	10K	5%	1/4W
	R068	1-216-833-11	RES-CHIP	10K	5%	1/10W
	R070	1-216-813-11	RES-CHIP	220	5%	1/10W
	R071	1-216-841-11	RES-CHIP	47K	5%	1/10W
	R073	1-249-425-11	CARBON	4.7K	5%	1/4W
	R074	1-249-417-11	CARBON	1K	5%	1/4W
	R075	1-216-813-11	RES-CHIP	220	5%	1/10W
	R076	1-216-841-11	RES-CHIP	47K	5%	1/10W
	R077	1-216-809-11	RES-CHIP	100	5%	1/10W
	R078	1-216-841-11	RES-CHIP	47K	5%	1/10W
⚠	R080	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R085	1-215-924-00	METAL OXIDE	15K	5%	3W
	R086	1-216-839-11	RES-CHIP	33K	5%	1/10W
	R087	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R089	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R098	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R099	1-216-809-11	RES-CHIP	100	5%	1/10W
	R101	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R102	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R103	1-249-425-11	CARBON	4.7K	5%	1/4W
	R104	1-216-813-11	RES-CHIP	220	5%	1/10W
	R107	1-216-809-11	RES-CHIP	100	5%	1/10W
	R108	1-216-809-11	RES-CHIP	100	5%	1/10W
	R110	1-247-807-31	CARBON	100	5%	1/4W
	R111	1-216-809-11	RES-CHIP	100	5%	1/10W
	R113	1-247-807-31	CARBON	100	5%	1/4W
	R114	1-249-409-11	CARBON	220	5%	1/4W
	R117	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R118	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R120	1-249-413-11	CARBON	470	5%	1/4W
	R123	1-249-421-11	CARBON	2.2K	5%	1/4W
		(KV-32FV300/36FV300 ONLY)				
	R124	1-216-813-11	RES-CHIP	220	5%	1/10W
		(KV-32FV300/36FV300 ONLY)				
	R125	1-249-421-11	CARBON	2.2K	5%	1/4W
		(KV-32FV300/36FV300 ONLY)				
	R126	1-216-813-11	RES-CHIP	220	5%	1/10W
		(KV-32FV300/36FV300 ONLY)				
	R127	1-249-421-11	CARBON	2.2K	5%	1/4W
		(KV-32FV300/36FV300 ONLY)				
	R128	1-216-813-11	RES-CHIP	220	5%	1/10W
		(KV-32FV300/36FV300 ONLY)				
	R129	1-249-409-11	CARBON	220	5%	1/4W
	R130	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R131	1-216-813-11	RES-CHIP	220	5%	1/10W
	R132	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R133	1-216-841-11	RES-CHIP	47K	5%	1/10W
	R134	1-216-813-11	RES-CHIP	220	5%	1/10W
	R135	1-216-813-11	RES-CHIP	220	5%	1/10W
	R136	1-249-425-11	CARBON	4.7K	5%	1/4W
	R137	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R139	1-216-813-11	RES-CHIP	220	5%	1/10W
	R140	1-249-409-11	CARBON	220	5%	1/4W
	R145	1-249-401-11	CARBON	47	5%	1/4W
	R201	1-216-864-11	SHORT			
	R202	1-249-409-11	CARBON	220	5%	1/4W
	R203	1-216-864-11	SHORT			
	R206	1-249-409-11	CARBON	220	5%	1/4W
	R207	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R208	1-249-409-11	CARBON	220	5%	1/4W
	R209	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R210	1-216-813-11	RES-CHIP	220	5%	1/10W
	R217	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R218	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R219	1-216-813-11	RES-CHIP	220	5%	1/10W
	R220	1-216-813-11	RES-CHIP	220	5%	1/10W
	R222	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R223	1-216-813-11	RES-CHIP	220	5%	1/10W

A

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R224	1-249-409-11	CARBON	220	5%	1/4W
R225	1-216-845-11	RES-CHIP	100K	5%	1/10W
R228	1-216-845-11	RES-CHIP	100K	5%	1/10W
R229	1-216-845-11	RES-CHIP	100K	5%	1/10W
R230	1-249-409-11	CARBON	220	5%	1/4W
R231	1-216-813-11	RES-CHIP	220	5%	1/10W
R232	1-216-853-11	RES-CHIP	470K	5%	1/10W
R233	1-216-853-11	RES-CHIP	470K	5%	1/10W
R234	1-216-813-11	RES-CHIP	220	5%	1/10W
R235	1-216-813-11	RES-CHIP	220	5%	1/10W
R300	1-216-864-11	SHORT			
R301	1-216-809-11	RES-CHIP	100	5%	1/10W
R302	1-216-817-11	RES-CHIP	470	5%	1/10W
R303	1-249-414-11	CARBON	560	5%	1/4W
R306	1-216-843-11	RES-CHIP	68K	5%	1/10W
R307	1-216-843-11	RES-CHIP	68K	5%	1/10W
R308	1-249-429-11	CARBON	10K	5%	1/4W
R309	1-216-864-11	SHORT			
R320	1-216-864-11	SHORT			
R322	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R325	1-247-807-31	CARBON	100	5%	1/4W
R328	1-216-833-11	RES-CHIP	10K	5%	1/10W
R329	1-247-807-31	CARBON	100	5%	1/4W
R331	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R332	1-216-809-11	RES-CHIP	100	5%	1/10W
R333	1-216-809-11	RES-CHIP	100	5%	1/10W
R334	1-216-821-11	RES-CHIP	1K	5%	1/10W
R335	1-216-821-11	RES-CHIP	1K	5%	1/10W
R336	1-216-809-11	RES-CHIP	100	5%	1/10W
R337	1-249-417-11	CARBON	1K	5%	1/4W
R338	1-216-864-11	SHORT			
R339	1-216-840-11	RES-CHIP	39K	5%	1/10W
	(KV-32FV300/36FV300 ONLY)				
R339	1-216-851-11	RES-CHIP	330K	5%	1/10W
	(KV-27FV300/29FV300 ONLY)				
R340	1-216-861-11	RES-CHIP	2.2M	5%	1/10W
	(KV-27FV300/29FV300 ONLY)				
R340	1-216-863-11	RES-CHIP	3.3M	5%	1/10W
	(KV-32FV300/36FV300 ONLY)				
R341	1-216-842-11	RES-CHIP	56K	5%	1/10W
	(KV-27FV300/29FV300 ONLY)				
R341	1-216-851-11	RES-CHIP	330K	5%	1/10W
	(KV-32FV300/36FV300 ONLY)				
R342	1-216-839-11	RES-CHIP	33K	5%	1/10W
R343	1-216-833-11	RES-CHIP	10K	5%	1/10W
R344	1-216-853-11	RES-CHIP	470K	5%	1/10W
R345	1-216-845-11	RES-CHIP	100K	5%	1/10W
R346	1-216-845-11	RES-CHIP	100K	5%	1/10W
R347	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R348	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R349	1-216-864-11	SHORT			
R350	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R351	1-216-864-11	SHORT			
R352	1-216-864-11	SHORT			
R353	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R354	1-249-425-11	CARBON	4.7K	5%	1/4W
R359	1-216-833-11	RES-CHIP	10K	5%	1/10W
R368	1-216-864-11	SHORT			
R369	1-216-809-11	RES-CHIP	100	5%	1/10W
R370	1-216-809-11	RES-CHIP	100	5%	1/10W
R372	1-216-864-11	SHORT			
R374	1-216-833-11	RES-CHIP	10K	5%	1/10W
R376	1-216-809-11	RES-CHIP	100	5%	1/10W
R378	1-216-809-11	RES-CHIP	100	5%	1/10W
R379	1-216-809-11	RES-CHIP	100	5%	1/10W
R380	1-216-809-11	RES-CHIP	100	5%	1/10W
R381	1-216-821-11	RES-CHIP	1K	5%	1/10W
R382	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R383	1-249-421-11	CARBON	2.2K	5%	1/4W
R384	1-216-840-11	RES-CHIP	39K	5%	1/10W
R385	1-216-813-11	RES-CHIP	220	5%	1/10W
R386	1-216-845-11	RES-CHIP	100K	5%	1/10W
R387	1-216-864-11	SHORT			
R388	1-216-821-11	RES-CHIP	1K	5%	1/10W
R389	1-216-864-11	SHORT			
R390	1-218-285-11	RES-CHIP	75	5%	1/10W
R391	1-218-285-11	RES-CHIP	75	5%	1/10W
R393	1-218-285-11	RES-CHIP	75	5%	1/10W
R394	1-218-285-11	RES-CHIP	75	5%	1/10W
R395	1-218-285-11	RES-CHIP	75	5%	1/10W
R396	1-216-853-11	RES-CHIP	470K	5%	1/10W
R397	1-249-417-11	CARBON	1K	5%	1/4W
R398	1-216-841-11	RES-CHIP	47K	5%	1/10W
R399	1-216-845-11	RES-CHIP	100K	5%	1/10W
R400	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R401	1-216-809-11	RES-CHIP	100	5%	1/10W
R402	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	(KV-32FV300/36FV300 ONLY)				

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

A component identified by this ⋈ symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

A

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R403	1-216-809-11	RES-CHIP	100	5%	1/10W
R404	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	(KV-32FV300/36FV300 ONLY)				
R405	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R406	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R407	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R408	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R409	1-249-407-11	CARBON	150	5%	1/4W
R411	1-216-817-11	RES-CHIP	470	5%	1/10W
R412	1-216-821-11	RES-CHIP	1K	5%	1/10W
R413	1-216-833-11	RES-CHIP	10K	5%	1/10W
R416	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R420	1-216-824-11	RES-CHIP	1.8K	5%	1/10W
R421	1-216-846-11	RES-CHIP	120K	5%	1/10W
R422	1-216-861-11	RES-CHIP	2.2M	5%	1/10W
R423	1-216-839-11	RES-CHIP	33K	5%	1/10W
R424	1-216-843-11	RES-CHIP	68K	5%	1/10W
R425	1-216-842-11	RES-CHIP	56K	5%	1/10W
R426	1-216-823-11	RES-CHIP	1.5K	5%	1/10W
R452	1-249-409-11	CARBON	220	5%	1/4W
R453	1-216-813-11	RES-CHIP	220	5%	1/10W
R501	1-216-815-11	RES-CHIP	330	5%	1/10W
	(KV-27FV300/29FV300 ONLY)				
R501	1-216-817-11	RES-CHIP	470	5%	1/10W
	(KV-32FV300/36FV300 ONLY)				
R502	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
⚠ R503	1-249-425-11	CARBON	4.7K	5%	1/4W
R504	1-215-885-00	METAL OXIDE	68	5%	2W
	(KV-27FV300/29FV300 ONLY)				
R504	1-216-455-21	METAL OXIDE	560	5%	2W
	(KV-32FV300/36FV300 ONLY)				
R505	1-249-433-11	CARBON	22K	5%	1/4W
R506	1-215-861-00	METAL OXIDE	47	5%	1W
R507	1-249-401-11	CARBON	47	5%	1/4W
R508	1-249-425-11	CARBON	4.7K	5%	1/4W
⚠ R509	1-260-328-11	CARBON	1K	5%	1/2W
⚠ R510	1-215-883-11	METAL OXIDE	33	5%	2W
R512	1-215-910-00	METAL OXIDE	68	5%	3W
R515	1-216-836-11	RES-CHIP	18K	5%	1/10W
⚠ R516	1-216-830-11	RES-CHIP	5.6K	5%	1/10W
	(KV-32FV300 ONLY)				
⚠ R516	1-216-832-11	RES-CHIP	8.2K	5%	1/10W
	(KV-27FV300/29FV300 ONLY)				

REF. NO.	PART NO.	DESCRIPTION	VALUES		
⚠ R516	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
	(KV-36FV300 ONLY)				
R517	1-249-417-11	CARBON	1K	5%	1/4W
R518	1-216-833-11	RES-CHIP	10K	5%	1/10W
R519	1-249-413-11	CARBON	470	5%	1/4W
R520	1-215-907-11	METAL OXIDE	22	5%	3W
⚠ R523	1-216-834-11	RES-CHIP	12K	5%	1/10W
	(KV-32FV300/36FV300 ONLY)				
⚠ R523	1-216-837-11	RES-CHIP	22K	5%	1/10W
	(KV-27FV300/29FV300 ONLY)				
⚠ R524	1-249-429-11	CARBON	10K	5%	1/4W
⚠ R525	1-249-428-11	CARBON	8.2K	5%	1/4W
R526	1-215-905-11	METAL OXIDE	10	5%	3W
	(KV-32FV300/36FV300 ONLY)				
R526	1-216-377-11	METAL OXIDE	4.7	5%	2W
	(KV-27FV300/29FV300 ONLY)				
⚠ R528	1-216-837-11	RES-CHIP	22K	5%	1/10W
⚠ R529	1-216-837-11	RES-CHIP	22K	5%	1/10W
⚠ ⋈R530	1-216-834-11	RES-CHIP	12K	5%	1/10W
⚠ ⋈R531	1-216-842-11	RES-CHIP	56K	5%	1/10W
⚠ R532	1-216-810-11	RES-CHIP	120	5%	1/10W
R533	1-215-879-11	METAL OXIDE	47K	5%	1W
⚠ R536	1-260-288-11	CARBON	0.47	5%	1/2W
⚠ R537	1-260-288-11	CARBON	0.47	5%	1/2W
R538	1-247-887-00	CARBON	220K	5%	1/4W
R540	1-216-857-11	RES-CHIP	1M	5%	1/10W
R541	1-215-894-11	METAL OXIDE	2.2K	5%	2W
R542	1-216-485-11	METAL OXIDE	5.6K	5%	3W
⚠ R543	1-249-377-11	CARBON	0.47	5%	1/4W
⚠ R545	1-249-387-11	CARBON	3.3	5%	1/4W
R546	1-215-453-00	METAL	22K	1%	1/4W
R547	1-215-457-00	METAL	33K	1%	1/4W
R548	1-216-485-11	METAL OXIDE	5.6K	5%	3W
R549	1-215-437-00	METAL	4.7K	1%	1/4W
⚠ R550	1-249-377-11	CARBON	0.47	5%	1/4W
R551	1-215-873-00	METAL OXIDE	4.7K	5%	1W
⚠ R553	1-249-377-11	CARBON	0.47	5%	1/4W
R554	1-215-876-00	METAL OXIDE	15K	5%	1W
	(KV-27FV300/29FV300 ONLY)				
R554	1-215-894-11	METAL OXIDE	2.2K	5%	2W
	(KV-32FV300 ONLY)				
R555	1-249-441-11	CARBON	100K	5%	1/4W
R556	1-249-441-11	CARBON	100K	5%	1/4W
R557	1-249-441-11	CARBON	100K	5%	1/4W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

A

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R559	1-216-805-11	RES-CHIP	47	5%	1/10W
R561	1-249-429-11	CARBON	10K	5%	1/4W
⚠ R563	1-214-798-21	METAL	1.8	1%	1/2W
⚠ R564	1-247-895-91	CARBON	470K	5%	1/4W
R565	1-215-889-00	METAL OXIDE	330	5%	2W
R566	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
⚠ R567	1-249-385-11	CARBON	2.2	5%	1/4W
R568	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R569	1-249-429-11	CARBON	10K	5%	1/4W
R570	1-216-845-11	RES-CHIP	100K	5%	1/10W
R571	1-216-837-11	RES-CHIP	22K	5%	1/10W
R572	1-216-837-11	RES-CHIP	22K	5%	1/10W
R573	1-216-845-11	RES-CHIP	100K	5%	1/10W
⚠ R574	1-214-798-21	METAL	1.8	1%	1/2W
R576	1-215-905-11 (KV-32FV300/36FV300 ONLY)	METAL OXIDE	10	5%	3W
R576	1-215-907-11 (KV-27FV300/29FV300 ONLY)	METAL OXIDE	22	5%	3W
R577	1-216-821-11	RES-CHIP	1K	5%	1/10W
R578	1-214-798-21	METAL	1.8	1%	1/2W
R580	1-249-441-11	CARBON	100K	5%	1/4W
R581	1-247-887-00	CARBON	220K	5%	1/4W
⚠ R590	1-216-809-11	RES-CHIP	100	5%	1/10W
⚠ R591	1-249-417-11	CARBON	1K	5%	1/4W
⚠ R592	1-216-363-00	METAL OXIDE	0.33	5%	2W
⚠ R593	1-249-420-11	CARBON	1.8K	5%	1/4W
⚠ R594	1-249-429-11	CARBON	10K	5%	1/4W
⚠ R595	1-247-891-00	CARBON	330K	5%	1/4W
⚠ R596	1-249-441-11	CARBON	100K	5%	1/4W
⚠ R597	1-216-864-11	SHORT			
⚠ R598	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
⚠ R599	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R900	1-216-821-11	RES-CHIP	1K	5%	1/10W
R901	1-216-823-11	RES-CHIP	1.5K	5%	1/10W
R902	1-216-809-11	RES-CHIP	100	5%	1/10W
R903	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R904	1-216-818-11	RES-CHIP	560	5%	1/10W
R905	1-216-817-11	RES-CHIP	470	5%	1/10W
R906	1-249-417-11	CARBON	1K	5%	1/4W
R907	1-216-833-11	RES-CHIP	10K	5%	1/10W
R908	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R909	1-249-417-11	CARBON	1K	5%	1/4W
R910	1-216-833-11	RES-CHIP	10K	5%	1/10W
R912	1-249-417-11	CARBON	1K	5%	1/4W

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R932	1-218-285-11	RES-CHIP	75	5%	1/10W
R933	1-218-285-11	RES-CHIP	75	5%	1/10W
R934	1-218-285-11	RES-CHIP	75	5%	1/10W
R940	1-247-807-31	CARBON	100	5%	1/4W
R941	1-247-807-31	CARBON	100	5%	1/4W
R942	1-216-841-11	RES-CHIP	47K	5%	1/10W
R947	1-216-864-11	SHORT			
R950	1-216-809-11	RES-CHIP	100	5%	1/10W
R951	1-216-813-11	RES-CHIP	220	5%	1/10W
R6001	1-216-833-11	RES-CHIP	10K	5%	1/10W
R6002	1-216-833-11	RES-CHIP	10K	5%	1/10W
R6003	1-216-833-11	RES-CHIP	10K	5%	1/10W
R6004	1-216-821-11	RES-CHIP	1K	5%	1/10W

SWITCH

S501	1-572-707-11	SWITCH LEVER
S502	1-572-707-11	SWITCH LEVER

TRANSFORMER

T501	1-433-836-11	TRANSFORMER, HORIZONTAL DRIVE
⚠ T502	1-426-981-11	TRANSFORMER, FERRITE (PMT)
⚠ T503	1-453-310-11 (KV-27FV300/29FV300 ONLY)	FBT ASSY, NX-4521//X4J4
⚠ T503	1-453-338-21 (KV-36FV300 ONLY)	FBT ASSY, NX-4600//X4C4
⚠ T503	1-453-338-31 (KV-32FV300 ONLY)	FBT ASSY, NX-4600//X4J4
⚠ T504	1-424-584-11	TRANSFORMER, DYNAMIC FOCUS
⚠ T505	1-431-693-11 (KV-27FV300/29FV300 ONLY)	TRANSFORMER, HORIZONTAL LINEAR
⚠ T505	1-435-098-11 (KV-32FV300/36FV300 ONLY)	TRANSFORMER, HORIZONTAL LINEAR

THERMISTOR

TH501	1-800-193-00	THERMISTOR

TUNER

⚠ TU001	8-598-593-00	TUNER, FSS BTF-WA421

CRYSTAL

X001	1-781-931-21	VIBRATOR, CRYSTAL
X301	1-567-505-11	OSCILLATOR, CRYSTAL

BC

BC

REF. NO.	PART NO.	DESCRIPTION	VALUES		
*	A-1400-450-A	BC BOARD, MOUNTED			
	CAPACITOR				
C3355	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C3356	1-126-964-11	ELECT	10µF	20%	50V
C3357	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C3358	1-126-940-11	ELECT	330µF	20%	25V
C3359	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3360	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3361	1-162-922-11	CERAMIC CHIP	39pF	5%	50V
C3369	1-126-967-11	ELECT	47µF	20%	50V
C3370	1-126-964-11	ELECT	10µF	20%	50V
C3371	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3398	1-126-961-11	ELECT	2.2µF	20%	50V
C3504	1-162-920-11	CERAMIC CHIP	27pF	5%	50V
C3505	1-162-920-11	CERAMIC CHIP	27pF	5%	50V
C3506	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3507	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3509	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3510	1-164-392-11	CERAMIC CHIP	390pF	5%	50V
C3511	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3512	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3513	1-216-864-11	SHORT			
C3514	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C3515	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3516	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3517	1-126-924-11	ELECT	330µF	20%	6.3V
C3518	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3519	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3520	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3521	1-162-920-11	CERAMIC CHIP	27pF	5%	50V
C3522	1-126-947-11	ELECT	47µF	20%	16V
C3523	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3524	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3525	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3526	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3527	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3528	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3529	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3530	1-126-947-11	ELECT	47µF	20%	16V
C3531	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3532	1-126-964-11	ELECT	10µF	20%	50V
C3533	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C3534	1-126-960-11	ELECT	1µF	20%	50V
C3535	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C3536	1-126-960-11	ELECT	1µF	20%	50V
C3537	1-126-964-11	ELECT	10µF	20%	50V
C3538	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C3539	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C3541	1-162-921-11	CERAMIC CHIP	33pF	5%	50V
C3542	1-126-964-11	ELECT	10µF	20%	50V
C3543	1-135-834-91	CERAMIC CHIP	2.2µF		6.3V
C3546	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C3547	1-126-934-11	ELECT	220µF	20%	10V
C3548	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3549	1-126-947-11	ELECT	47µF	20%	16V
C3550	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C3551	1-126-947-11	ELECT	47µF	20%	16V
C3552	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C3553	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C3554	1-126-960-11	ELECT	1µF	20%	50V
C3555	1-126-934-11	ELECT	220µF	20%	10V
C3556	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3557	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C3558	1-126-947-11	ELECT	47µF	20%	16V
C3559	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C3560	1-126-947-11	ELECT	47µF	20%	16V
C3561	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C3562	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C3563	1-126-947-11	ELECT	47µF	20%	16V
C3564	1-126-947-11	ELECT	47µF	20%	16V
C3565	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C3566	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C3580	1-126-940-11	ELECT	330µF	20%	25V
C3581	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3582	1-126-934-11	ELECT	220µF	20%	10V
C3583	1-126-934-11	ELECT	220µF	20%	10V
C3585	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3590	1-104-665-11	ELECT	100µF	20%	25V
	CONNECTOR				
CN3500	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P			

BC

REF. NO.	PART NO.	DESCRIPTION	VALUES
	DIODE		
D3550	8-719-977-28	DIODE UDZSTE-1710B	
	FERRITE BEAD		
FB3502	1-414-234-22	FERRITE	0µH
FB3503	1-414-234-22	FERRITE	0µH
FB3504	1-414-234-22	FERRITE	0µH
FB3505	1-414-234-22	FERRITE	0µH
FB3506	1-414-234-22	FERRITE	0µH
FB3507	1-414-234-22	FERRITE	0µH
FB3508	1-414-234-22	FERRITE	0µH
FB3509	1-414-234-22	FERRITE	0µH
	FILTER		
FL3500	1-239-848-21	FILTER, LOW PASS	
FL3501	1-239-848-21	FILTER, LOW PASS	
FL3502	1-239-848-21	FILTER, LOW PASS	
FL3503	1-239-848-21	FILTER, LOW PASS	
FL3504	1-233-736-21	FILTER, EMI	
FL3505	1-233-736-21	FILTER, EMI	
FL3506	1-233-736-21	FILTER, EMI	
	IC		
IC3501	6-700-960-01	IC UPD64083GF-3BA	
IC3502	8-759-462-91	IC TA1226N	
IC3503	8-759-583-47	IC UPC2933T-E1	
IC3504	6-700-394-01	IC BA25BC0FP-E2	
IC3505	8-759-394-35	IC BA12T	
	CHIP CONDUCTOR		
JR3301	1-216-864-11	SHORT	
JR3302	1-216-864-11	SHORT	
JR3501	1-216-864-11	SHORT	
	COIL		
L3352	1-414-186-31	INDUCTOR	33µH
L3500	1-414-265-21	INDUCTOR	4.7µH
L3501	1-412-058-11	INDUCTOR	10µH
L3502	1-412-058-11	INDUCTOR	10µH
L3503	1-412-058-11	INDUCTOR	10µH
L3504	1-412-058-11	INDUCTOR	10µH
L3505	1-412-058-11	INDUCTOR	10µH

REF. NO.	PART NO.	DESCRIPTION	VALUES		
	TRANSISTOR				
Q3500	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3501	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3502	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3503	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3504	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3505	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3506	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3508	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3509	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3510	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3511	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3512	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3513	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3514	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3515	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3516	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3517	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3590	8-729-926-14	TRANSISTOR 2SD1292			
	RESISTOR				
R3301	1-216-805-11	RES-CHIP	47	5%	1/10W
R3302	1-216-805-11	RES-CHIP	47	5%	1/10W
R3303	1-216-833-11	RES-CHIP	10K	5%	1/10W
R3364	1-216-845-11	RES-CHIP	100K	5%	1/10W
R3365	1-216-841-11	RES-CHIP	47K	5%	1/10W
R3366	1-216-850-11	RES-CHIP	270K	5%	1/10W
R3369	1-216-843-11	RES-CHIP	68K	5%	1/10W
R3373	1-216-809-11	RES-CHIP	100	5%	1/10W
R3505	1-216-864-11	SHORT			
R3506	1-216-864-11	SHORT			
R3507	1-216-864-11	SHORT			
R3508	1-216-864-11	SHORT			
R3509	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3510	1-216-817-11	RES-CHIP	470	5%	1/10W
R3511	1-216-817-11	RES-CHIP	470	5%	1/10W
R3514	1-216-809-11	RES-CHIP	100	5%	1/10W
R3515	1-216-824-11	RES-CHIP	1.8K	5%	1/10W
R3516	1-216-824-11	RES-CHIP	1.8K	5%	1/10W
R3517	1-216-809-11	RES-CHIP	100	5%	1/10W
R3518	1-216-809-11	RES-CHIP	100	5%	1/10W
R3519	1-216-864-11	SHORT			
R3520	1-218-708-11	METAL CHIP	4.7K	0.50%	1/16W

BC HU

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R3521	1-216-817-11	RES-CHIP	470	5%	1/10W
R3522	1-216-817-11	RES-CHIP	470	5%	1/10W
R3523	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3524	1-216-841-11	RES-CHIP	47K	5%	1/10W
R3525	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R3526	1-216-849-11	RES-CHIP	220K	5%	1/10W
R3527	1-218-676-11	METAL CHIP	220	0.50%	1/16W
R3528	1-216-818-11	RES-CHIP	560	5%	1/10W
R3529	1-216-818-11	RES-CHIP	560	5%	1/10W
R3530	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R3531	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3532	1-216-809-11	RES-CHIP	100	5%	1/10W
R3534	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3535	1-216-809-11	RES-CHIP	100	5%	1/10W
R3538	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3539	1-216-818-11	RES-CHIP	560	5%	1/10W
R3540	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3541	1-216-830-11	RES-CHIP	5.6K	5%	1/10W
R3542	1-216-818-11	RES-CHIP	560	5%	1/10W
R3543	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3544	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3545	1-216-818-11	RES-CHIP	560	5%	1/10W
R3547	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R3548	1-216-864-11	SHORT			
R3549	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R3550	1-216-820-11	RES-CHIP	820	5%	1/10W
R3551	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R3552	1-216-812-11	RES-CHIP	180	5%	1/10W
R3553	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R3554	1-216-820-11	RES-CHIP	820	5%	1/10W
R3555	1-216-834-11	RES-CHIP	12K	5%	1/10W
R3556	1-216-839-11	RES-CHIP	33K	5%	1/10W
R3557	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3558	1-216-805-11	RES-CHIP	47	5%	1/10W
R3559	1-216-864-11	SHORT			
R3560	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3561	1-216-818-11	RES-CHIP	560	5%	1/10W
R3563	1-216-864-11	SHORT			
R3564	1-216-864-11	SHORT			
R3565	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R3566	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R3567	1-216-819-11	RES-CHIP	680	5%	1/10W
R3568	1-216-820-11	RES-CHIP	820	5%	1/10W
R3569	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R3570	1-216-839-11	RES-CHIP	33K	5%	1/10W
R3571	1-216-834-11	RES-CHIP	12K	5%	1/10W
R3572	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3573	1-216-805-11	RES-CHIP	47	5%	1/10W
R3580	1-215-857-71	METAL OXIDE	10	5%	1W
R3582	1-216-817-11	RES-CHIP	470	5%	1/10W
R3588	1-216-818-11	RES-CHIP	560	5%	1/10W

CRYSTAL

X3500	1-767-606-11	VIBRATOR, CRYSTAL			

HU

*	**A-1400-451-A**	**HU BOARD, MOUNTED**			

CAPACITOR

C2234	1-126-960-11	ELECT	1µF	20%	50V
C2235	1-126-960-11	ELECT	1µF	20%	50V
C2240	1-126-959-11	ELECT	0.47µF	20%	50V
C2241	1-126-959-11	ELECT	0.47µF	20%	50V

CONNECTOR

*	CN1001	1-564-506-11	PLUG,CONNECTOR	3P	
*	CN1002	1-564-508-11	PLUG,CONNECTOR	5P	
*	CN1003	1-564-507-11	PLUG,CONNECTOR	4P	

DIODE

D301	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D2235	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D2236	8-719-929-15	DIODE MTZJ-T-77-9.1B			

JACK

J2231	1-770-053-12	TERMINAL BLOCK, S (LIGHT ANGLE)			

RESISTOR

R1001	1-249-425-11	CARBON	4.7K	5%	1/4W
R1002	1-249-420-11	CARBON	1.8K	5%	1/4W
R1003	1-249-417-11	CARBON	1K	5%	1/4W
R2008	1-249-425-11	CARBON	4.7K	5%	1/4W
R2009	1-249-420-11	CARBON	1.8K	5%	1/4W
R2010	1-249-417-11	CARBON	1K	5%	1/4W
R2011	1-249-416-11	CARBON	820	5%	1/4W
R2235	1-249-409-11	CARBON	220	5%	1/4W
R2236	1-249-441-11	CARBON	100K	5%	1/4W
R2237	1-249-409-11	CARBON	220	5%	1/4W

HU P

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R2238	1-249-441-11	CARBON	100K	5%	1/4W
R2239	1-247-804-11	CARBON	75	5%	1/4W
R2240	1-247-804-11	CARBON	75	5%	1/4W
R2241	1-247-804-11	CARBON	75	5%	1/4W
	SWITCH				
S1007	1-762-816-11	SWITCH TACTILE			
S1008	1-762-816-11	SWITCH TACTILE			
S2001	1-692-431-21	SWITCH TACTILE			
S2002	1-692-431-21	SWITCH TACTILE			
S2003	1-692-431-21	SWITCH TACTILE			
S2004	1-692-431-21	SWITCH TACTILE			
S2005	1-692-431-21	SWITCH TACTILE			

P

*	**A-1400-456-A**	**P (VAR) BOARD, MOUNTED**	
	4-382-854-11	SCREW (M3X10), P, SW (+)	
	CAPACITOR		
C100	1-126-968-11	ELECT	100µF 20% 50V
C102	1-126-947-11	ELECT	47µF 20% 25V
C103	1-126-964-11	ELECT	10µF 20% 50V
C104	1-126-967-11	ELECT	47µF 20% 50V
C106	1-162-968-11	CERAMIC CHIP	0.0047µF 10% 50V
C107	1-126-960-11	ELECT	1µF 20% 50V
C109	1-164-230-11	CERAMIC CHIP	220pF 5% 50V
C110	1-165-176-11	CERAMIC CHIP	0.047µF 10% 16V
C111	1-126-960-11	ELECT	1µF 20% 50V
C3300	1-115-156-11	CERAMIC CHIP	1µF 10V
C3301	1-115-156-11	CERAMIC CHIP	1µF 10V
C3302	1-115-156-11	CERAMIC CHIP	1µF 10V
C3303	1-126-947-11	ELECT	47µF 20% 16V
C3304	1-164-315-11	CERAMIC CHIP	470pF 5% 50V
C3305	1-164-360-11	CERAMIC CHIP	0.1µF 16V
C3308	1-126-947-11	ELECT	47µF 20% 16V
C3312	1-164-315-11	CERAMIC CHIP	470pF 5% 50V
C3313	1-162-927-11	CERAMIC CHIP	100pF 5% 50V
C3316	1-126-947-11	ELECT	47µF 20% 16V
C3317	1-162-970-11	CERAMIC CHIP	0.01µF 10% 25V
C3318	1-162-970-11	CERAMIC CHIP	0.01µF 10% 25V
C3319	1-126-947-11	ELECT	47µF 20% 16V
C3320	1-162-970-11	CERAMIC CHIP	0.01µF 10% 25V

REF. NO.	PART NO.	DESCRIPTION	VALUES		
C3321	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C3322	1-164-373-11	CERAMIC CHIP	0.033µF		25V
C3323	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C3324	1-162-918-11	CERAMIC CHIP	18pF	5%	50V
C3327	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C3328	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3329	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C3330	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3331	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3332	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3334	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3335	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3336	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3337	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3338	1-164-360-11	CERAMIC CHIP	0.1µF		16V
C3339	1-126-965-91	ELECT	22µF	20%	50V
C3340	1-126-947-11	ELECT	47µF	20%	16V
C3341	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3390	1-104-665-11	ELECT	100µF	20%	25V
C3391	1-104-665-11	ELECT	100µF	20%	25V
	CONNECTOR				
* CN3302	1-691-632-21	CONNECTOR, BOARD TO BOARD 15P			
* CN3303	1-691-632-21	CONNECTOR, BOARD TO BOARD 15P			
CN6600	1-695-915-11	TAB (CONTACT)			
	DIODE				
D103	8-719-404-50	DIODE MA111-TX			
D104	8-719-404-50	DIODE MA111-TX			
D3301	8-719-404-50	DIODE MA111-TX			
D3304	8-719-109-72	DIODE MTZJ-T-77-3.9B			
	IC				
IC3301	6-701-754-01	IC M65665ASP			
IC3390	8-759-701-59	IC NJM78M09FA			
	CHIP CONDUCTOR				
JR001	1-216-864-11	SHORT			
JR002	1-216-864-11	SHORT			
	COIL				
L150	1-414-857-11	INDUCTOR	100µH		
L3300	1-412-058-11	INDUCTOR	10µH		
L3301	1-410-682-31	INDUCTOR	470µH		
L3302	1-412-058-11	INDUCTOR	10µH		

P

REF. NO.	PART NO.	DESCRIPTION	VALUES		
L3303	1-412-058-11	INDUCTOR	10µH		
L3390	1-412-525-31	INDUCTOR	10µH		
	TRANSISTOR				
Q151	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q152	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3300	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3301	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3302	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3304	8-729-926-14	TRANSISTOR 2SD1292			
Q3305	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3307	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3308	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3309	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3310	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3312	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
	RESISTOR				
R100	1-216-809-11	RES-CHIP	100	5%	1/10W
R101	1-216-809-11	RES-CHIP	100	5%	1/10W
R103	1-216-837-11	RES-CHIP	22K	5%	1/10W
R104	1-216-839-11	RES-CHIP	33K	5%	1/10W
R105	1-216-809-11	RES-CHIP	100	5%	1/10W
R106	1-216-817-11	RES-CHIP	470	5%	1/10W
R107	1-216-817-11	RES-CHIP	470	5%	1/10W
R108	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R112	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R113	1-216-845-11	RES-CHIP	100K	5%	1/10W
R114	1-216-857-11	RES-CHIP	1M	5%	1/10W
R115	1-216-833-11	RES-CHIP	10K	5%	1/10W
R116	1-216-833-11	RES-CHIP	10K	5%	1/10W
R117	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R3300	1-216-841-11	RES-CHIP	47K	5%	1/10W
R3301	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3302	1-216-841-11	RES-CHIP	47K	5%	1/10W
R3303	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3304	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3305	1-216-841-11	RES-CHIP	47K	5%	1/10W
R3306	1-216-837-11	RES-CHIP	22K	5%	1/10W
R3307	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3308	1-216-837-11	RES-CHIP	22K	5%	1/10W
R3309	1-216-817-11	RES-CHIP	470	5%	1/10W
R3310	1-216-841-11	RES-CHIP	47K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R3311	1-216-819-11	RES-CHIP	680	5%	1/10W
R3312	1-216-864-11	SHORT			
R3313	1-216-864-11	SHORT			
R3314	1-216-864-11	SHORT			
R3318	1-216-833-11	RES-CHIP	10K	5%	1/10W
R3319	1-216-833-11	RES-CHIP	10K	5%	1/10W
R3320	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R3321	1-216-864-11	SHORT			
R3323	1-249-414-11	CARBON	560	5%	1/4W
R3324	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3327	1-216-864-11	SHORT			
R3328	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3329	1-216-864-11	SHORT			
R3330	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3331	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3335	1-215-857-71	METAL OXIDE	10	5%	1W
R3336	1-216-817-11	RES-CHIP	470	5%	1/10W
R3343	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3346	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3347	1-216-833-11	RES-CHIP	10K	5%	1/10W
R3348	1-216-833-11	RES-CHIP	10K	5%	1/10W
R3350	1-216-864-11	SHORT			
R3351	1-216-813-11	RES-CHIP	220	5%	1/10W
R3354	1-216-863-11	RES-CHIP	3.3M	5%	1/10W
R3359	1-216-864-11	SHORT			
R3360	1-216-864-11	SHORT			
R3361	1-216-864-11	SHORT			
R3362	1-216-827-11	RES-CHIP	3.3K	5%	1/10W
R3363	1-216-839-11	RES-CHIP	33K	5%	1/10W
R3364	1-247-807-31	CARBON	100	5%	1/4W
R3365	1-247-807-31	CARBON	100	5%	1/4W
R3368	1-216-833-11	RES-CHIP	10K	5%	1/10W
R3369	1-216-864-11	SHORT			
R3372	1-216-864-11	SHORT			
R3374	1-216-864-11	SHORT			
R3390	1-216-395-00	METAL OXIDE	3.3	5%	3W
	TUNER				
TU150	8-598-594-00	TUNER, FSS BTF-FA421			
	CRYSTAL				
X3301	1-781-377-41	VIBRATOR, CRYSTAL			

HR T

REF. NO.	PART NO.	DESCRIPTION	VALUES		
HR					
*	**A-1400-459-A**	**HR (COM) BOARD, MOUNTED**			
	CAPACITOR				
C3001	1-104-665-11	ELECT	100µF	20%	25V
	CONNECTOR				
CN3001	1-564-521-11	PLUG,CONNECTOR	6P		
	DIODE				
D3002	8-719-057-09	DIODE LNJ801LPDJA			
	IC				
IC3001	8-742-211-20	HYB IC SBX3071-71			
	RESISTOR				
R3001	1-249-417-11	CARBON	1K	5%	1/4W
R3014	1-247-807-31	CARBON	100	5%	1/4W
	SWITCH				
S3006	1-572-198-11	SWITCH KEYBOARD			
T					
*	**A-1400-460-A**	**T BOARD, MOUNTED (KV-32FV300/36FV300 ONLY)**			
	CAPACITOR				
C401	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C402	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C403	1-126-963-11	ELECT	4.7µF	20%	50V
C404	1-164-739-11	CERAMIC CHIP	560pF	5%	50V
C405	1-126-947-11	ELECT	47µF	20%	25V
C406	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C407	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C408	1-164-739-11	CERAMIC CHIP	560pF	5%	50V
C409	1-126-963-11	ELECT	4.7µF	20%	50V
C410	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C411	1-126-963-11	ELECT	4.7µF	20%	50V
C412	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C413	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C414	1-126-947-11	ELECT	47µF	20%	25V
C415	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C416	1-126-947-11	ELECT	47µF	20%	25V
C417	1-126-963-11	ELECT	4.7µF	20%	50V
C418	1-162-916-11	CERAMIC CHIP	12pF	5%	50V
C419	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C420	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C421	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C422	1-126-947-11	ELECT	47µF	20%	25V
C423	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C424	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C425	1-126-947-11	ELECT	47µF	20%	25V
C426	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C427	1-126-933-11	ELECT	100µF	20%	16V
	CONNECTOR				
* CN415	1-564-520-11	PLUG,CONNECTOR	5P		
	DIODE				
D401	8-719-109-89	DIODE MTZJ-T-77-5.6C			
D402	8-719-057-93	DIODE SVC203SPA-AL			
D403	8-719-057-93	DIODE SVC203SPA-AL			
D404	8-719-992-13	DIODE DAL5815			
D405	8-719-992-13	DIODE DAL5815			
D406	8-719-992-13	DIODE DAL5815			
D407	8-719-992-13	DIODE DAL5815			
D408	8-719-992-13	DIODE DAL5815			
D409	8-719-992-13	DIODE DAL5815			
D410	8-719-992-13	DIODE DAL5815			
D411	8-719-992-13	DIODE DAL5815			
	IC				
IC401	8-759-939-73	IC BA3308			
	COIL				
L401	1-411-987-11	COIL (OSC)			
L402	1-411-988-11	COIL (OSC)			
L403	1-410-482-31	INDUCTOR	100µH		
	TRANSISTOR				
Q401	8-729-266-83	TRANSISTOR 2SC2668-YTP			
Q402	8-729-266-83	TRANSISTOR 2SC2668-YTP			
Q403	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q404	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q405	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			

T C

REF. NO.	PART NO.	DESCRIPTION	VALUES		
Q406	8-729-931-14	TRANSISTOR 2SD1858-Q-TV2			
Q407	8-729-931-14	TRANSISTOR 2SD1858-Q-TV2			
Q408	8-729-931-14	TRANSISTOR 2SD1858-Q-TV2			
Q409	8-729-931-14	TRANSISTOR 2SD1858-Q-TV2			
Q410	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q411	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
	RESISTOR				
R401	1-216-841-11	RES-CHIP	47K	5%	1/10W
R402	1-216-841-11	RES-CHIP	47K	5%	1/10W
R403	1-216-841-11	RES-CHIP	47K	5%	1/10W
R404	1-216-823-11	RES-CHIP	1.5K	5%	1/10W
R405	1-216-809-11	RES-CHIP	100	5%	1/10W
R406	1-216-823-11	RES-CHIP	1.5K	5%	1/10W
R407	1-216-863-11	RES-CHIP	3.3M	5%	1/10W
R408	1-216-841-11	RES-CHIP	47K	5%	1/10W
R409	1-216-823-11	RES-CHIP	1.5K	5%	1/10W
R410	1-216-823-11	RES-CHIP	1.5K	5%	1/10W
R411	1-216-809-11	RES-CHIP	100	5%	1/10W
R412	1-218-713-11	METAL CHIP	7.5K	0.50%	1/16W
R413	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R414	1-216-833-11	RES-CHIP	10K	5%	1/10W
R415	1-249-411-11	CARBON	330	5%	1/4W
R416	1-216-837-11	RES-CHIP	22K	5%	1/10W
R417	1-216-837-11	RES-CHIP	22K	5%	1/10W
R418	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R419	1-216-833-11	RES-CHIP	10K	5%	1/10W
R420	1-216-852-11	RES-CHIP	390K	5%	1/10W
R421	1-216-809-11	RES-CHIP	100	5%	1/10W
R422	1-216-809-11	RES-CHIP	100	5%	1/10W
R423	1-216-852-11	RES-CHIP	390K	5%	1/10W
R424	1-216-823-11	RES-CHIP	1.5K	5%	1/10W
R425	1-216-827-11	RES-CHIP	3.3K	5%	1/10W
R426	1-218-731-11	METAL CHIP	43K	0.50%	1/16W
R427	1-216-827-11	RES-CHIP	3.3K	5%	1/10W
R428	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R429	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R430	1-218-700-11	METAL CHIP	2.2K	0.50%	1/16W
R431	1-218-700-11	METAL CHIP	2.2K	0.50%	1/16W
R432	1-218-731-11	METAL CHIP	43K	0.50%	1/16W
R433	1-216-826-11	RES-CHIP	2.7K	5%	1/10W
R434	1-216-826-11	RES-CHIP	2.7K	5%	1/10W
R435	1-216-797-11	RES-CHIP	10	5%	1/10W
R436	1-216-797-11	RES-CHIP	10	5%	1/10W
R437	1-216-797-11	RES-CHIP	10	5%	1/10W
R438	1-216-797-11	RES-CHIP	10	5%	1/10W
R439	1-216-826-11	RES-CHIP	2.7K	5%	1/10W
R440	1-216-864-11	SHORT			
R441	1-216-864-11	SHORT			
R460	1-216-826-11	RES-CHIP	2.7K	5%	1/10W

C

* **A-1400-455-A C (COM) BOARD, MOUNTED (KV-27FV300/29FV300/32FV300 ONLY)**

* **A-1400-580-A C (VAR) BOARD, MOUNTED (KV-36FV300 ONLY)**

4-382-854-11 SCREW (M3X10), P, SW (+)

CAPACITOR

C701	1-126-947-11	ELECT	47µF	20%	25V
C702	1-136-165-00	FILM	0.1µF	5%	50V
C703	1-126-947-11	ELECT	47µF	20%	25V
C704	1-107-652-11	ELECT	10µF	20%	250V
C705	1-107-652-11	ELECT	10µF	20%	250V
C706	1-137-528-11	MYLAR	0.1µF	10%	250V
C707	1-162-114-00	CERAMIC	0.0047µF		2KV
C708	1-136-165-00	FILM	0.1µF	5%	50V
C709	1-126-964-11	ELECT	10µF	20%	50V
C710	1-126-964-11	ELECT	10µF	20%	50V
C711	1-102-074-00	CERAMIC	0.001µF	10%	50V

CONNECTOR

*	CN701	1-564-506-11	PLUG,CONNECTOR	3P
	CN702	1-695-915-11	TAB (CONTACT)	
	CN704	1-785-879-11	CONNECTOR, ONE TOUCH	
*	CN705	1-564-511-11	PLUG,CONNECTOR	8P
*	CN706	1-564-510-11	PLUG,CONNECTOR	7P
*	CN707	1-560-124-00	PLUG,CONNECTOR (2.5MM) (KV-36FV300 ONLY)	4P

DIODE

D701	8-719-901-83	DIODE 1SS83TD
D702	8-719-901-83	DIODE 1SS83TD
D703	8-719-901-83	DIODE 1SS83TD
D704	8-719-302-43	DIODE RGP10GPKG23

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

C V

REF. NO.	PART NO.	DESCRIPTION	VALUES		
	IC				
IC701	8-759-803-42	IC LA6500-FA			
IC702	8-759-562-43	IC TDA6108JF/N1B			
	COIL				
L701	1-408-613-31	INDUCTOR	68µH		
	TRANSISTOR				
Q700	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q701	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
	RESISTOR				
R700	1-249-433-11	CARBON	22K	5%	1/4W
R701	1-249-429-11	CARBON	10K	5%	1/4W
R702	1-249-409-11	CARBON	220	5%	1/4W
R703	1-247-807-31	CARBON	100	5%	1/4W
R704	1-249-426-11	CARBON	5.6K	5%	1/4W
R705	1-249-429-11	CARBON	10K	5%	1/4W
R706	1-249-381-11	CARBON	1	5%	1/4W
⚠ R707	1-249-383-11	CARBON	1.5	5%	1/4W
R708	1-247-807-31	CARBON	100	5%	1/4W
R709	1-247-807-31	CARBON	100	5%	1/4W
R710	1-247-807-31	CARBON	100	5%	1/4W
R711	1-260-328-11	CARBON	1K	5%	1/2W
R712	1-260-328-11	CARBON	1K	5%	1/2W
R713	1-260-328-11	CARBON	1K	5%	1/2W
R714	1-260-087-11	CARBON	100	5%	1/2W
R715	1-260-132-11	CARBON	560K	5%	1/2W
R716	1-260-123-11	CARBON	100K	5%	1/2W
R718	1-216-373-11	METAL OXIDE	2.2	5%	2W
R719	1-215-888-00	METAL OXIDE	220	5%	2W
R720	1-249-421-11	CARBON	2.2K	5%	1/4W
R721	1-249-421-11	CARBON	2.2K	5%	1/4W
R722	1-247-807-31	CARBON	100	5%	1/4W
R723	1-247-807-31	CARBON	100	5%	1/4W
R724	1-247-807-31	CARBON	100	5%	1/4W
	VARIABLE RESISTOR				
RV701	1-241-656-11	RES,ADJ, METAL,FILM	110M		

V

REF. NO.	PART NO.	DESCRIPTION	VALUES		
*	**A-1400-461-A**	**V (VAR) BOARD, MOUNTED (KV-32FV300 ONLY)**			
*	**A-1400-565-A**	**V (VAR) BOARD, MOUNTED (KV-27FV300/29FV300 ONLY)**			
*	**A-1400-581-A**	**V (VAR) BOARD, MOUNTED (KV-36FV300 ONLY)**			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	CAPACITOR				
C802	1-126-964-11	ELECT	10µF	20%	50V
C803	1-137-378-11	MYLAR	0.22µF	5%	50V
C804	1-137-378-11	MYLAR	0.22µF	5%	50V
C805	1-129-763-61	FILM	0.033µF	5%	200V
C808	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C809	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C810	1-130-495-00	MYLAR	0.1µF	5%	50V
C811	1-129-765-00	FILM	0.047µF	5%	200V
C812	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C813	1-126-933-11	ELECT	100µF	20%	16V
C821	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C823	1-130-967-00	FILM	0.0027µF	5%	50V
C824	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C826	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C862	1-126-964-11	ELECT	10µF	20%	50V
C901	1-107-667-11	ELECT	2.2µF	20%	160V
C902	1-107-364-11	MYLAR	0.01µF	10%	200V
C903	1-126-935-11	ELECT	470µF	20%	16V
C904	1-130-471-00	MYLAR	0.001µF	5%	50V
C905	1-107-364-11	MYLAR	0.01µF	10%	200V
C906	1-130-471-00	MYLAR	0.001µF	5%	50V
C907	1-107-963-11	ELECT	33µF	20%	160V
C908	1-126-935-11	ELECT	470µF	20%	16V
C909	1-104-999-11	MYLAR	0.1µF	10%	200V
C910	1-104-999-11	MYLAR	0.1µF	10%	200V
C911	1-126-933-11	ELECT	100µF	20%	16V
C912	1-126-933-11	ELECT	100µF	20%	16V
C913	1-102-074-00	CERAMIC	0.001µF	10%	50V
C914	1-130-491-00	MYLAR	0.047µF	5%	50V
C930	1-126-935-11	ELECT	470µF	20%	6.3V
C931	1-126-935-11	ELECT	470µF	20%	6.3V

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

V

	REF. NO.	PART NO.	DESCRIPTION	VALUES
		CONNECTOR		
*	CN901	1-764-333-11	PLUG,CONNECTOR	10P
*	CN902	1-770-723-11	CONNECTOR, BOARD TO BOARD	8P
		DIODE		
	D804	8-719-302-43	DIODE RGP10GPKG23	
	D805	8-719-991-33	DIODE 1SS133T-77	
	D806	8-719-991-33	DIODE 1SS133T-77	
	D807	8-719-210-21	DIODE ERA82-004TP5	
	D808	8-719-991-33	DIODE 1SS133T-77	
	D813	8-719-991-33	DIODE 1SS133T-77	
	D901	8-719-924-11	DIODE MTZJ-T-77-22	
	D902	8-719-924-11	DIODE MTZJ-T-77-22	
	D903	8-719-991-33	DIODE 1SS133T-77	
	D905	8-719-510-02	DIODE D1NS4-TR	
	D906	8-719-404-50	DIODE MA111-TX	
	D907	8-719-404-50	DIODE MA111-TX	
	D908	8-719-404-50	DIODE MA111-TX	
		IC		
	IC801	6-701-598-01	IC UPC5023CS-184	
		CHIP CONDUCTOR		
	JR802	1-216-864-11	SHORT	
		COIL		
	L801	1-406-989-21	INDUCTOR	10MH
	L802	1-459-111-00	INDUCTOR	10MH
	L803	1-412-529-81	INDUCTOR	22µH
	L901	1-412-528-11	INDUCTOR	18µH
		TRANSISTOR		
	Q805	6-550-106-01	TRANSISTOR KTB764	
	Q807	8-729-931-45	TRANSISTOR IRF614	
	Q808	6-550-106-01	TRANSISTOR KTB764	
	Q812	8-729-026-39	TRANSISTOR 2SA933AS-QRT	
	Q901	8-729-045-04	TRANSISTOR 2SC5511	
	Q902	8-729-045-05	TRANSISTOR 2SA2005	
	Q903	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q904	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q905	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q906	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
	Q907	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
	Q908	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
		RESISTOR		
	R809	1-216-832-11	RES-CHIP	8.2K 5% 1/10W
	R811	1-249-393-11	CARBON	10 5% 1/4W
	R814	1-215-862-11	METAL OXIDE (KV-32FV300/36FV300 ONLY)	68 5% 1W
	R815	1-215-862-11	METAL OXIDE	68 5% 1W
	R817	1-218-734-11	METAL CHIP	56K 0.50% 1/16W
	R818	1-216-809-11	RES-CHIP	100 5% 1/10W
	R819	1-216-841-11	RES-CHIP	47K 5% 1/10W
	R820	1-216-837-11	RES-CHIP	22K 5% 1/10W
	R821	1-218-728-11	METAL CHIP	33K 0.50% 1/16W
	R822	1-216-841-11	RES-CHIP	47K 5% 1/10W
	R824	1-218-740-11	METAL CHIP	100K 0.50% 1/16W
	R825	1-216-845-11	RES-CHIP	100K 5% 1/10W
	R826	1-249-421-11	CARBON	2.2K 5% 1/4W
	R827	1-218-708-11	METAL CHIP	4.7K 0.50% 1/16W
	R828	1-218-728-11	METAL CHIP	33K 0.50% 1/16W
	R829	1-216-797-11	RES-CHIP	10 5% 1/10W
	R833	1-216-830-11	RES-CHIP	5.6K 5% 1/10W
	R834	1-216-830-11	RES-CHIP	5.6K 5% 1/10W
	R840	1-218-736-11	METAL CHIP	68K 0.50% 1/16W
	R841	1-216-826-11	RES-CHIP	2.7K 5% 1/10W
	R842	1-216-825-11	RES-CHIP	2.2K 5% 1/10W
	R855	1-216-835-11	RES-CHIP	15K 5% 1/10W
	R856	1-216-827-11	RES-CHIP	3.3K 5% 1/10W
	R857	1-218-728-11	METAL CHIP	33K 0.50% 1/16W
	R860	1-216-833-11	RES-CHIP	10K 5% 1/10W
	R864	1-218-668-11	METAL CHIP	100 0.50% 1/16W
	R866	1-249-438-11	CARBON	56K 5% 1/4W
	R870	1-216-825-11	RES-CHIP	2.2K 5% 1/10W
	R876	1-216-821-11	RES-CHIP	1K 5% 1/10W
	R890	1-218-867-11	RES-CHIP	6.8K 5% 1/10W
	R893	1-216-839-11	RES-CHIP	33K 5% 1/10W
⚠	R901	1-249-405-11	CARBON	100 5% 1/4W
⚠	R902	1-249-385-11	CARBON	2.2 5% 1/4W
⚠	R903	1-249-414-11	CARBON	560 5% 1/4W
	R904	1-249-432-11	CARBON	18K 5% 1/4W
	R905	1-249-421-11	CARBON	2.2K 5% 1/4W
	R906	1-249-432-11	CARBON	18K 5% 1/4W
⚠	R907	1-249-385-11	CARBON	2.2 5% 1/4W
⚠	R908	1-249-414-11	CARBON	560 5% 1/4W
	R909	1-260-316-51	CARBON	100 5% 1/2W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

V GK

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R910	1-215-915-11	METAL OXIDE	470	5%	3W
R911	1-249-411-11	CARBON	330	5%	1/4W
R912	1-249-407-11	CARBON	150	5%	1/4W
R913	1-249-399-11	CARBON	33	5%	1/4W
R914	1-249-416-11	CARBON	820	5%	1/4W
R915	1-249-425-11	CARBON	4.7K	5%	1/4W
R917	1-249-425-11	CARBON	4.7K	5%	1/4W
R918	1-249-401-11	CARBON	47	5%	1/4W
R919	1-249-401-11	CARBON	47	5%	1/4W
R921	1-249-429-11	CARBON	10K	5%	1/4W
R922	1-249-397-11	CARBON	22	5%	1/4W
R923	1-249-401-11	CARBON	47	5%	1/4W
R930	1-216-864-11	SHORT			
R931	1-249-421-11	CARBON	2.2K	5%	1/4W
R932	1-218-696-11	METAL CHIP	1.5K	0.50%	1/16W
R933	1-216-864-11	SHORT			
⚠ R935	1-249-405-11	CARBON	100	5%	1/4W
R938	1-216-864-11	SHORT			

GK

* **A-1400-452-A GK (VAR) BOARD, MOUNTED (KV-27FV300/29FV300(N)/32FV300 ONLY)**

* **A-1400-583-A GK (VAR) BOARD, MOUNTED (KV-36FV300 ONLY)**

* **A-1400-608-A GK (VAR) BOARD, MOUNTED (KV-29FV300(S) ONLY)**

	1-533-223-11	HOLDER, FUSE			
*	4-374-846-11	COVER,CAPACITOR, CAP TYPE			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	4-382-854-11	SCREW (M3X10), P, SW (+)			

CAPACITOR

C501	1-165-529-11	MYLAR	0.22µF	10%	275V
C600	1-117-703-11	CERAMIC	0.0047µF	20%	250V
	(KV-29FV300(S) ONLY)				
⚠ C601	1-165-529-11	MYLAR	0.22µF	10%	275V
⚠ C603	1-165-529-11	MYLAR	0.22µF	10%	275V
C604	1-164-625-11	CERAMIC	680pF	10%	500V
⚠ C607	1-119-912-51	CERAMIC	1000pF	20%	250V
⚠ C608	1-119-912-51	CERAMIC	1000pF	20%	250V
C609	1-164-625-11	CERAMIC	680pF	10%	500V
C616	1-126-943-11	ELECT	2200µF	20%	25V
C617	1-123-024-21	ELECT	33µF		160V
C618	1-126-943-11	ELECT	2200µF	20%	25V
C620	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C621	1-117-894-11	ELECT	560µF	20%	250V
C624	1-107-636-11	ELECT	10µF	20%	160V
C629	1-117-894-11	ELECT	560µF	20%	250V
C632	1-126-947-11	ELECT	47µF	20%	25V
C633	1-136-479-11	FILM	0.001µF	2%	50V
C634	1-126-964-11	ELECT	10µF	20%	50V
C635	1-126-963-11	ELECT	4.7µF	20%	50V
C637	1-136-165-00	FILM	0.1µF	5%	50V
C638	1-104-665-11	ELECT	100µF	20%	25V
C640	1-126-942-61	ELECT	1000µF	20%	25V
C642	1-126-969-11	ELECT	220µF	20%	50V
C643	1-136-165-00	FILM	0.1µF	5%	50V
C645	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C647	1-126-947-11	ELECT	47µF	20%	25V
C648	1-104-330-91	CERAMIC	470pF	10%	1KV
C649	1-104-330-91	CERAMIC	470pF	10%	1KV
C650	1-128-550-11	ELECT	2200µF	20%	50V
C651	1-126-942-61	ELECT	1000µF	20%	25V
C652	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C653	1-126-960-11	ELECT	1µF	20%	50V
C656	1-161-964-91	CERAMIC	0.0047µF		250V
C658	1-161-964-91	CERAMIC	0.0047µF		250V
C665	1-126-942-61	ELECT	1000µF	20%	25V
C667	1-164-625-11	CERAMIC	680pF	10%	500V
C668	1-164-625-11	CERAMIC	680pF	10%	500V
C669	1-164-625-11	CERAMIC	680pF	10%	500V
C670	1-164-625-11	CERAMIC	680pF	10%	500V
C672	1-135-946-21	FILM	47000pF	3%	800V
C690	1-126-971-11	ELECT	470µF	20%	50V
C1401	1-137-652-91	CERAMIC CHIP	39000pF	10%	16V
C1402	1-164-172-11	CERAMIC CHIP	0.0056µF	10%	25V
C1403	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1404	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C1405	1-126-947-11	ELECT	47µF	20%	25V
C1406	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1407	1-126-965-91	ELECT	22µF	20%	50V
C1408	1-126-768-11	ELECT	2200µF	20%	16V
C1413	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C1450	1-135-572-51	ELECT	1000µF	20%	50V
C1451	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C1457	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

GK

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
	C1458	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
	C1461	1-113-619-11	CERAMIC CHIP	0.47µF		10V
	C1462	1-113-619-11	CERAMIC CHIP	0.47µF		10V
	C1463	1-126-968-11	ELECT	100µF	20%	50V
		CONNECTOR				
*	CN503	1-573-963-11	PIN,CONNECTOR (PC BOARD)	3P		
	CN600	1-580-843-11	PIN,CONNECTOR (POWER)			
*	CN602	1-564-510-11	PLUG,CONNECTOR	7P		
	CN603	1-695-915-11	TAB (CONTACT)			
	CN604	1-695-915-11	TAB (CONTACT)			
		(KV-27FV300/29FV300(N)/32FV300/36FV300 ONLY)				
*	CN605	1-564-506-11	PLUG,CONNECTOR	3P		
*	CN1401	1-564-507-11	PLUG,CONNECTOR	4P		
	CN1402	1-564-505-11	PLUG,CONNECTOR	2P		
*	CN1405	1-564-506-11	PLUG,CONNECTOR	3P		
*	CN1601	1-564-509-11	PLUG,CONNECTOR	6P		
		DIODE				
	D501	8-719-404-50	DIODE MA111-TX			
	D600	8-719-510-53	DIODE D4SB60L-F			
	D601	8-719-511-40	DIODE S1VB20			
	D611	8-719-062-40	DIODE D4SBL20µF3			
	D612	8-719-068-00	DIODE ERC04-06SE			
		(KV-27FV300/29FV300(N)/32FV300/36FV300 ONLY)				
	D613	8-719-068-00	DIODE ERC04-06SE			
		(KV-27FV300/29FV300(N)/32FV300/36FV300 ONLY)				
	D614	8-719-057-52	DIODE EZ0150AV1			
	D615	8-719-062-40	DIODE D4SBL20µF3			
	D618	8-719-979-64	DIODE µF4005PKG23			
	D620	8-719-404-50	DIODE MA111-TX			
	D621	6-500-181-01	DIODE MA6D50			
	D624	8-719-510-12	DIODE D10SC4M			
	D625	8-719-510-02	DIODE D1NS4-TA2			
	D628	8-719-404-50	DIODE MA111-TX			
	D629	8-719-110-31	DIODE MTZJ-T-77-12C			
	D631	8-719-063-70	DIODE D1NL20U-TA2			
	D640	8-719-404-50	DIODE MA111-TX			
	D641	8-719-404-50	DIODE MA111-TX			
	D645	8-719-063-70	DIODE D1NL20U-TA2			
	D646	8-719-404-50	DIODE MA111-TX			
	D647	8-719-063-70	DIODE D1NL20U-TA2			
	D690	8-719-982-13	DIODE MTZJ-T-77-27			
	D1401	8-719-929-15	DIODE MTZJ-T-77-9.1B			

	REF. NO.	PART NO.	DESCRIPTION	VALUES
		FUSE		
⚠	F601	1-576-193-11	FUSE	6.3A/125V
		(KV-27FV300/29FV300(N)/32FV300/36FV300 ONLY)		
⚠	F601	1-532-506-51	FUSE	6.3A/250V
		(KV-29FV300(S) ONLY)		
		FERRITE BEAD		
	FB602	1-410-397-21	FERRITE	1.1µH
	FB604	1-410-397-21	FERRITE	1.1µH
	FB605	1-410-397-21	FERRITE	1.1µH
	FB609	1-410-397-21	FERRITE	1.1µH
	FB610	1-410-397-21	FERRITE	1.1µH
	FB611	1-410-397-21	FERRITE	1.1µH
	FB612	1-410-397-21	FERRITE	1.1µH
	FB614	1-410-397-21	FERRITE	1.1µH
	FB616	1-410-397-21	FERRITE	1.1µH
	FB617	1-410-397-21	FERRITE	1.1µH
		IC		
	IC600	8-759-670-30	IC MCZ3001D	
	IC601	8-749-012-13	IC DM-58	
⚠	IC602	1-761-541-11	SELECTION UNIT, RECTIFICATION	
		(KV-36FV300 ONLY)		
	IC605	8-759-450-47	IC BA05T	
	IC609	8-759-653-07	IC PQ09RD21	
	IC1405	8-759-573-40	IC TDA8580Q/N1	
	IC1406	8-759-100-96	IC NJM4558M-TE2	
		CHIP CONDUCTOR		
	JR1	1-216-864-11	SHORT	
	JR2	1-216-864-11	SHORT	
	JR3	1-216-864-11	SHORT	
	JR6	1-216-864-11	SHORT	
	JR1400	1-216-864-11	SHORT	
	JR1401	1-216-864-11	SHORT	
	JR1404	1-216-864-11	SHORT	
	JR1405	1-216-864-11	SHORT	
	JR1409	1-216-864-11	SHORT	
	JR1411	1-216-864-11	SHORT	
	JR1412	1-216-864-11	SHORT	
		COIL		
	L505	1-412-529-11	INDUCTOR	22µH
	L604	1-412-525-31	INDUCTOR	10µH
	L605	1-412-519-11	INDUCTOR	3.3µH
	L606	1-412-519-11	INDUCTOR	3.3µH

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

GK

REF. NO.	PART NO.	DESCRIPTION	VALUES		
L607	1-412-525-31	INDUCTOR	10µH		
L608	1-412-529-11	INDUCTOR	22µH		
	PHOTO COUPLER				
⚠ PH602	8-749-924-35	PHOTO COUPLER	ON3171-R		
	IC LINK				
PS601	1-576-337-21	LINK, IC			
PS1401	1-576-337-21	LINK, IC			
	TRANSISTOR				
Q509	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q600	8-729-052-32	TRANSISTOR IRFIB7N50A-LF31			
Q601	8-729-052-32	TRANSISTOR IRFIB7N50A-LF31			
Q605	8-729-140-96	TRANSISTOR 2SD774-T-34			
Q606	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q608	8-729-922-37	TRANSISTOR 2SD2144S-TP-UVW			
Q690	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q691	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q1401	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
	RESISTOR				
R534	1-216-833-11	RES-CHIP	10K	5%	1/10W
R535	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
⚠ R603	1-219-513-11	CARBON	4.7M	5%	1/2W
	(KV-27FV300/29FV300(N)/32FV300/36FV300 ONLY)				
R604	1-216-833-11	RES-CHIP	10K	5%	1/10W
R606	1-216-833-11	RES-CHIP	10K	5%	1/10W
R607	1-216-833-11	RES-CHIP	10K	5%	1/10W
R608	1-216-833-11	RES-CHIP	10K	5%	1/10W
R609	1-205-998-11	CEMENTED	1	5%	10W
R610	1-216-833-11	RES-CHIP	10K	5%	1/10W
R611	1-216-833-11	RES-CHIP	10K	5%	1/10W
R612	1-260-131-11	CARBON	470K	5%	1/2W
	(KV-29FV300(S) ONLY)				
R613	1-216-833-11	RES-CHIP	10K	5%	1/10W
R614	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R615	1-202-933-61	FUSIBLE	0.1	10%	1/2W
R616	1-216-822-11	RES-CHIP	1.2K	5%	1/10W
R617	1-216-821-11	RES-CHIP	1K	5%	1/10W
R618	1-216-864-11	SHORT			
⚠ R619	1-249-377-11	CARBON	0.47	5%	1/4W
R620	1-215-857-71	METAL OXIDE	10	5%	1W
R625	1-216-817-11	RES-CHIP	470	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R626	1-218-715-11	METAL CHIP	9.1K	0.50%	1/16W
R627	1-215-481-00	METAL	330K	1%	1/4W
R628	1-260-131-11	CARBON	470K	5%	1/2W
	(KV-29FV300(S) ONLY)				
R629	1-215-481-00	METAL	330K	1%	1/4W
⚠ R630	1-215-481-00	METAL	330K	1%	1/4W
R631	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
R632	1-218-668-11	METAL CHIP	100	0.50%	1/16W
⚠ R640	1-249-417-11	CARBON	1K	5%	1/4W
R647	1-218-667-11	METAL CHIP	91	0.50%	1/16W
⚠ R658	1-249-393-11	CARBON	10	5%	1/4W
⚠ R659	1-249-393-11	CARBON	10	5%	1/4W
R660	1-216-833-11	RES-CHIP	10K	5%	1/10W
R667	1-216-833-11	RES-CHIP	10K	5%	1/10W
⚠ R668	1-249-413-11	CARBON	470	5%	1/4W
R670	1-216-833-11	RES-CHIP	10K	5%	1/10W
R671	1-243-979-71	METAL OXIDE	0.1	5%	2W
R672	1-243-979-71	METAL OXIDE	0.1	5%	2W
R687	1-205-998-11	CEMENTED	1	5%	10W
R688	1-205-998-11	CEMENTED	1	5%	10W
R691	1-216-837-11	RES-CHIP	22K	5%	1/10W
R692	1-216-837-11	RES-CHIP	22K	5%	1/10W
R694	1-216-837-11	RES-CHIP	22K	5%	1/10W
R698	1-249-377-11	CARBON	0.47	5%	1/4W
⚠ R699	1-218-265-11	METAL	8.2M	5%	1W
	(KV-29FV300(S) ONLY)				
R1401	1-216-837-11	RES-CHIP	22K	5%	1/10W
R1402	1-216-837-11	RES-CHIP	22K	5%	1/10W
R1403	1-216-833-11	RES-CHIP	10K	5%	1/10W
R1404	1-216-840-11	RES-CHIP	39K	5%	1/10W
R1405	1-216-840-11	RES-CHIP	39K	5%	1/10W
R1406	1-216-840-11	RES-CHIP	39K	5%	1/10W
R1407	1-216-817-11	RES-CHIP	470	5%	1/10W
R1408	1-216-817-11	RES-CHIP	470	5%	1/10W
R1409	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R1410	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R1411	1-216-821-11	RES-CHIP	1K	5%	1/10W
R1412	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R1413	1-216-789-11	RES-CHIP	2.2	5%	1/10W
R1414	1-216-809-11	RES-CHIP	100	5%	1/10W
R1415	1-216-837-11	RES-CHIP	22K	5%	1/10W
R1416	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R1457	1-218-708-11	METAL CHIP	4.7K	0.50%	1/16W
R1458	1-218-708-11	METAL CHIP	4.7K	0.50%	1/16W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

GK HD

REF. NO.	PART NO.	DESCRIPTION	VALUES
R1461	1-218-716-11	METAL CHIP	10K 0.50% 1/16W
R1462	1-218-716-11	METAL CHIP	10K 0.50% 1/16W
R1481	1-216-833-11	RES-CHIP	10K 5% 1/10W
R1482	1-216-829-11	RES-CHIP	4.7K 5% 1/10W
R1487	1-216-864-11	SHORT	
		RELAY	
⚠ RY501	1-755-198-11	RELAY	
⚠ RY600	1-755-395-11	RELAY (AC POWER)	
		TRANSFORMER	
⚠ T601	1-435-617-11	TRANSFORMER, LINE FILTER	
⚠ T603	1-437-783-11	TRANSFORMER, STAND BY (KV-27FV300/29FV300(N)/32FV300/36FV300 ONLY)	
⚠ T603	1-437-784-11	TRANSFORMER, STAND BY (KV-29FV300(S) ONLY)	
⚠ T604	1-437-607-11	POWER ISOLATION TRANSFORMER	
⚠ T605	1-437-785-11	TRANSFORMER ASSY POWER (HST) (KV-36FV300 ONLY)	
		THERMISTOR	
THP501	1-803-540-11	THERMISTOR, POSITIVE (KV-29FV300(S) ONLY)	
THP501	1-803-629-11	THERMISTOR, POSITIVE (KV-36FV300 ONLY)	
THP501	1-804-313-11	THERMISTOR, POSITIVE (KV-27FV300/29FV300(N)/32FV300 ONLY)	
		VARISTOR	
VDR600	1-803-585-11	VARISTOR ENE271D-10A (KV-27FV300/29FV300(N)/32FV300/36FV300 ONLY)	
VDR600	1-803-967-11	VARISTOR ENE621D-14A (KV-29FV300(S) ONLY)	

HD

*	**A-1400-607-A**	**HD BOARD, MOUNTED** (KV-32FV300/36FV300 ONLY)
		ACCESSORIES AND PACKING
*	4-041-423-01	SHEET, PROTECTION (KV-36FV300 ONLY)
	4-085-910-01	CARTON, INDIVIDUAL (KV-32FV300 ONLY)
*	4-086-349-01	CARTON, HSC (KV-36FV300 ONLY)
	4-087-224-01	CARTON, INDIVIDUAL (KV-27FV300/29FV300 ONLY)
*	4-085-911-01	CUSHION, FRONT (UPPER) (KV-32FV300 ONLY)
*	4-805-912-01	CUSHION, REAR (UPPER) (KV-32FV300 ONLY)
*	4-805-913-01	CUSHION, LOWER (KV-32FV300 ONLY)
*	4-086-352-01	CUSHION, FRONT (UPPER) (KV-36FV300 ONLY)
*	4-086-353-01	CUSHION, REAR (UPPER) (KV-36FV300 ONLY)
*	4-086-354-01	CUSHION, LOWER (KV-36FV300 ONLY)
*	4-087-222-01	CUSHION, UPPER (KV-27FV300/29FV300 ONLY)
*	4-087-223-01	CUSHION, LOWER (KV-27FV300/29FV300 ONLY)
	4-086-346-21	MANUAL, INSTRUCTION (KV-27FV300/32FV300/36FV300 ONLY)
	4-086-346-31	MANUAL, INSTRUCTION (KV-27FV300(CND)/32FV300(CND)/36FV300(CND) ONLY)
	4-086-346-41	MANUAL, INSTRUCTION (KV-29FV300 ONLY)
	4-041-255-01	BAG, PROTECTION (KV-27FV300/29FV300 ONLY)
	4-066-845-02	BAG, PROTECTION (KV-32FV300 ONLY)
*	4-087-598-01	BAG, PROTECTION (KV-36FV300 ONLY)
	8-953-742-90	HEADPHONE MDR-IF0230//K SET (KV-32FV300/36FV300 ONLY)
		REMOTE COMMANDER
	1-476-668-11	REMOTE COMMANDER (RM-Y182) (KV-32FV300/36FV300 ONLY)
	1-476-681-11	REMOTE COMMANDER (RM-Y181) (KV-27FV300/29FV300)
	4-978-977-11	BATTERY COVER (KV-RM-Y181/RM-Y182)

Sony Corporation
Sony Technology Center
Technical Services
Service Promotion Department

English
2002CJ74059-1
Printed in USA
© 2002.3

9-965-924-01

PRINTING THE SERVICE MANUAL

The PDF of this service manual is not designed to be printed from cover to cover. The pages vary in size, and must therefore be printed in sections based on page dimensions.

NON-SCHEMATIC PAGES

Data that does NOT INCLUDE schematic diagrams are formatted to 8.5 x 11 inches and can be printed on standard letter-size and/or A4-sized paper.

SCHEMATIC DIAGRAMS

The schematic diagram pages are provided in two ways, full size and tiled. The full-sized schematic diagrams are formatted on paper sizes between 8.5" x 11" and 18" x 30" depending upon each individual diagram size. Those diagrams that are LARGER than 11" x 17" in full-size mode have been tiled for your convience and can be printed on standard 11" x 17" (tabloid-size) paper, and reassembled.

TO PRINT FULL SIZE SCHEMATIC DIAGRAMS

If you have access to a large paper plotter or printer capable of outputting the full-sized diagrams, output as follows:

1) Note the page size(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.

2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your large format printer. Confirm that the printer settings are set to output the indicated page size or larger.

3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT TILED VERSION OF SCHEMATICS

Schematic pages that are larger than 11" x 17" full-size are provided in a 11" x 17" printable tiled format near the end of the document. These can be printed to tabloid-sized paper and assembled to full-size for easy viewing.

If you have access to a printer capable of outputting the tabloid size (11" x 17") paper, then output the tiled version of the diagram as follows:

1) Note the page number(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.

2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your printer. Confirm that the plotter settings are set to output 11" x 17", or tabloid size paper in landscape (▭) mode.

3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT SPECIFIC SECTIONS OF A SCHEMATIC

To print just a particular section of a PDF, rather than a full page, access the Graphics Select tool in the Acrobat Reader tool bar.

1) To view the Graphics Select Tool, press and HOLD the mouse button over the Text Select Tool which looks like:
This tool will expand to reveal to additional tools.
Choose the Graphics Select tool by placing the cursor over the button on of the far right that looks like:

2) After selecting the Graphics Select Tool, place your cursor in the document window and the cursor will change to a plus (+) symbol. Click and drag the cursor over the area you want to print. When you release the mouse button, a marquee (or dotted lined box) will be displayed outlining the area you selected.

3) With the marquee in place, go to the file menu and select the "Print..." option. When the print window appears, choose the option under the section called "Print Range" which says "Selected Graphic".

Select OK and the output will print only the area that you outlined with the marquee.

(continued >)

ON-SCREEN SEARCH OPTION

All of the text within the service manual PDF is content searchable. This means that you can enter any text, word, phrase or reference number that appears in the manual, and the PDF software will search, find and move the cursor to the location where you requested text first appears. This feature can be particularly useful in locating components on a specific schematic or printed wire circuit board (PWB) diagrams.

Follow these steps to effectively locate a component on a schematic diagram:

1) Locate the schematic you want to search by clicking on the corresponding bookmark on the left side of the screen. The view on the right of the screen will then jump to the desired schematic page.

2) Magnify the diagram to at least 400% before conducting a component search. This will enable you to easily view the reference number when it is highlighted on screen. To do this, click on the magnifying glass button on the tool bar at the top of the screen. Move the cursor over the diagram and RIGHT click you mouse. Select the 400% magnification option on the pop-up menu. Click on the button with the icon of the open hand to deactivate the magnification tool

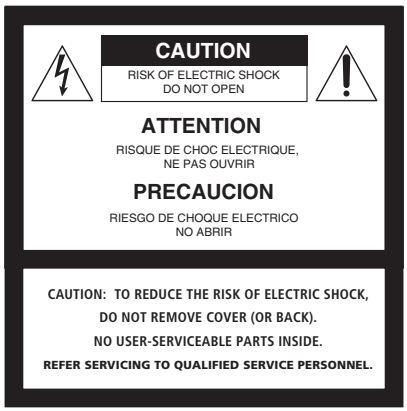
3) Search the diagram (or the entire manual) by clicking on the binocular button tool at the top of the screen. The “Find” window will appear and allow you to type in your desired text. Type in a reference designator, such as R502, and click on the “Find” button. If the component is not on the diagram, but is listed anywhere else in the manual, the cursor will jump to the first location the text is found in the file. To find another instance of that same text, click on the binocular button again and select “Find Again.”

Operating Instructions

2 Sony Corporation

WARNING

To reduce the risk of fire or electric shock, do not expose the TV to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Note to the CATV Installer

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

SAFETY PRECAUTIONS

- Operate the TV only on 120 V AC.
- One blade of the power plug is wider than the other for safety purposes and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- If any liquid or solid object falls into the TV, unplug it and have it checked by qualified personnel before operating it further.

CAUTION

When using TV games, computers, and similar products with your TV, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern is left on the screen for long periods of time at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. Continuously watching the same channel can cause the imprint of station logos onto the TV screen. These types of imprints are not covered by your warranty because they are the results of misuse.

To reduce the risk of electric shock, do not use this polarized plug with an extension cord, receptacle, or other outlet unless the blades can be fully inserted to prevent blade exposure.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

NOTIFICATION

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antennas.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Protecting the TV

- To prevent internal heat build-up, do not block the ventilation openings.
- Do not install the TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.

Note on Caption Vision

This television receiver provides display of television closed captioning in accordance with § 15.119 of the FCC rules.
Use of this television for other than private viewing of programs broadcast on UHF or VHF or transmitted by cable companies for the use of the general public may require authorization from the broadcaster-cable company and/or program owner.

Owner's Record

The model and serial numbers are located on the front cover of this manual and at the rear of your TV.

Trademarks and Copyrights

ENERGY STAR® is a registered mark.

As an ENERGY STAR® Partner, Sony has determined that this product or product model meets the ENERGY STAR® guidelines for energy efficiency.

Licensed by BBE Sound, Inc. under USP 4638258.4482866. BBE and BBE symbol are trademarks of BBE Sound, Inc.

"WOW, TruSurround, and the (●)® symbol are trademarks of SRS Labs, Inc. WOW technology is incorporated under license from SRS Labs, Inc."

IMPORTANT SAFEGUARDS

For your protection, please read these instructions completely, and keep this manual for future reference. Carefully observe and comply with all warnings, cautions and instructions placed on the set, or described in the operating instructions or service manual.

WARNING

To guard against injury, the following basic safety precautions should be observed in the installation, use, and servicing of the set.

Use

Power Sources

This set should be operated only from the type of power source indicated on the serial/model plate. If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, refer to the operating instructions.

Grounding or Polarization

This set is equipped with a polarized AC power cord plug (a plug having one blade wider than the other), or with a three-wire grounding type plug (a plug having a third pin for grounding).
Refer to the following instructions:

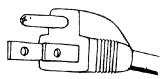
For the set with a polarized AC power cord plug

This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the polarized plug by forcing it in.

Alternate Warning

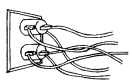
For the set with a three-wire grounding type AC plug

This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the grounding plug.



Overloading

Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock.



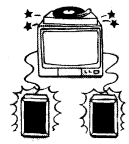
Always turn the set off when it is not to be used. When the set is left unattended and unused for long periods of time, unplug it from the wall outlet as a precaution against the possibility of an internal malfunction that could create a fire hazard.
Do not disconnect the antenna or the power cord during a heavy storm. Lightning may strike while you are holding the cable or cord, causing serious injury. Turn off your TV and wait for the weather to improve.

Object and Liquid Entry

Never push objects of any kind into the set through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the set.

Attachments

Do not use attachments not recommended by the manufacturer, as they may cause hazards.
Do not place any objects, especially heavy objects, on top of the set. The object may fall from the set, causing injury.



Cleaning

Unplug the set from the wall outlet before cleaning or polishing it. Do not use liquid cleaners or aerosol cleaners. Use a cloth lightly dampened with water for cleaning the exterior of the set.

If a snapping or popping sound from a TV set is continuous or frequent while the TV is operating, unplug the TV and consult your dealer or service technician. It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off.

Installation

Always use two or more people to lift or move the set. The set is heavy and the bottom surface is flat. Serious injury can result from trying to move the set by yourself alone, or from unsteady handling.
Install the set on a stable, level surface.

Water and Moisture

Do not use power-line operated sets near water — for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.

Accessories

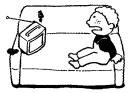
Do not place the set on an unstable cart, stand, tripod, bracket, table, or shelf. The set may fall, causing serious injury to a child or an adult, and serious damage to the set. Use only a cart or stand recommended by the manufacturer for the specific model of TV. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

Ventilation

The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of the set, and to protect it from overheating, these slots and openings must never be blocked or covered.

- **Never cover the slots and openings with a cloth or other materials.**

- **Never block the slots and openings by placing the set on a bed, sofa, rug or other similar surface.**



- **Never place the set in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided.**

- **Do not place the set near or over a radiator or heat register, or where it is exposed to direct sunlight.**

Power-Cord Protection

Do not allow anything to rest on or roll over the power cord, and do not place the set where the power cord is subject to wear or abuse.

Grounding or Polarization

This set may be equipped with a polarized alternating current line plug (a plug having one blade wider than other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

Antennas

Outdoor Antenna Grounding

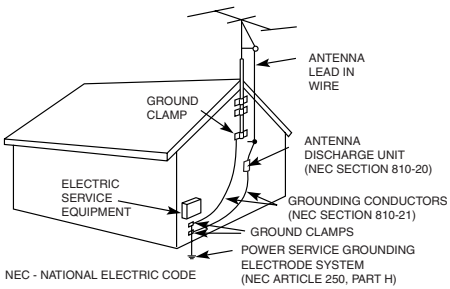
If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits.

WHEN INSTALLING AN OUTDOOR ANTENNA SYSTEM, EXTREME CARE SHOULD BE TAKEN TO KEEP FROM CONTACTING SUCH POWER LINES OR CIRCUITS AS CONTACT WITH THEM IS ALMOST INVARIABLY FATAL.

Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code (NEC) in USA and Section 54 of the Canadian Electrical Code in Canada provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Antenna Grounding According to the NEC

Antenna Grounding According to the National Electrical Code, ANSI/NFPA 70.


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ARTICLE 250, PART H)
NEC - NATIONAL ELECTRIC CODE

Lightning

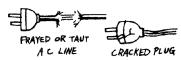
For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power-line surges.

Service

Damage Requiring Service

Unplug the set from the wall outlet and refer servicing to qualified service personnel under the following conditions:

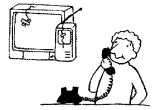
- **When the power cord or plug is damaged or frayed.**



- **If liquid has been spilled into the set or objects have fallen into the product.**

- **If the set has been exposed to rain or water.**

- **If the set has been subject to excessive shock by being dropped, or the cabinet has been damaged.**



- **If the set does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.**

- **When the set exhibits a distinct change in performance — this indicates a need for service.**

Servicing

Do not attempt to service the set yourself since opening the cabinet may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Replacement Parts

When replacement parts are required, be sure the service technician certifies in writing that he has used replacement parts specified by the manufacturer that have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards.

Safety Check

Upon completion of any service or repairs to the set, ask the service technician to perform routine safety checks (as specified by the manufacturer) to determine that the set is in safe operating condition, and to so certify. When the set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the set.

Contents

Introduction

Introducing the FD Trinitron WEGA® Features 1
About this Manual 2
Batteries for the Remote Control 2
Front Panel Menu Controls 2
Using the Remote Controls 3

Connecting Your TV

TV Rear Panel 8
Basic Connections 10
Cable Box Connections 11
Connecting Additional Equipment 13

Using Basic Functions

Setting Up the TV Automatically 21
Quick Start to the Menus 22
Using Picture in Picture (PIP) with Remote Y181 24
Using Picture in Picture (PIP) with Remote Y182 26
Setups that Affect Your Ability to Use PIP 28
Using Wireless Headphones 29

Using the Menus

How to access menus with Remote Control Y182 33
How to access menus with Remote Control Y181 33
Using the Video Menu 34
Using the Audio Menu 35
Using the Channel Setup Menu 37
Using the Parent Menu 39
Using the Timer Menu 45
Using the Setup Menu 46
Using the Basic Menu 47

Other Information

Programming the Remote Control 49
Troubleshooting 52
Specifications 55

Index 57

Introduction

Congratulations on your purchase of the Sony FD Trinitron WEGA®. Before you begin using this manual, please check the model number located on the rear of your TV or on the front cover of this manual.

Introducing the FD Trinitron WEGA® Features

Some of the features you will enjoy include:

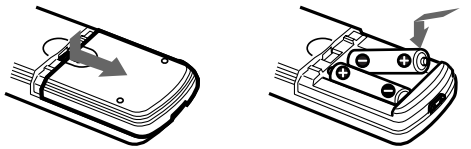
- **FD Trinitron Flat CRT** — Technologically advanced tube delivers a picture with uncompromising accuracy and outstanding image detail.
- **Y, P_B, P_R Inputs** — A component video input connection for a superior picture quality (480i only).
- **WOW** — A new audio feature that provides a dramatic presence with a full, deep bass sound. When WOW is enabled, BBE is directly activated to further enhance the audio performance.
- **TruSurround** — Produces a dynamic three dimensional sound for stereo audio signals.
- **Parental Control (V-Chip)** — A tool to help parents monitor what their children watch on TV by establishing rating limits.
- **Wireless Infrared Headphones** — Enjoy the privacy of listening to your favorite programs without disturbing anyone else (for KV-32FV300 and KV-36FV300 only).
- **ClearEdge VM** — Sharpens picture definition to give objects a sharp, clean edge.
- **DynaBlack** — Improves contrast and sharpens image detail.
- **Picture in Picture (PIP)** — Allows you to view two programs simultaneously.
- **Favorite Channels** — Instant access to your favorite channels with the touch of a button.
- **Info Banner** — A new, convenient feature that displays the name and the remaining time of the current program viewed, if available.
- **Universal Remote Control** — Program your remote control to operate your connected cable box, VCR, digital satellite receiver, or DVD player.
- **Energy Star®** — Meets the Energy Star guidelines for energy efficiency.
- **Front Panel Controls** — Allows access to the on-screen menus without the use of a remote control.
- **Front A/V Inputs** — A quick connection for video games, camcorders or stereo/mono equipment.

About this Manual

This manual provides instructions to help you enjoy your new TV. It shows you how to connect to an antenna or cable, cable box, VCR, DVD, satellite receiver, stereo system, or camcorder. Once you're connected, follow the instructions and use the remote control to access the on-screen menus.

Batteries for the Remote Control

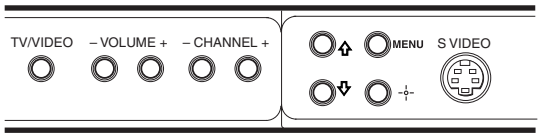
Insert two AA (R6) batteries (supplied) into the remote control using the following illustration as a guide.



✍ Under normal conditions, batteries will last up to six months. If the remote control does not operate properly, the batteries might be worn out.

✍ If you will not be using the remote control for an extended period of time, remove the batteries to avoid possible damage from battery leakage.

Front Panel Menu Controls



The front Audio/Video panel controls allows you to access the menu without the remote control.

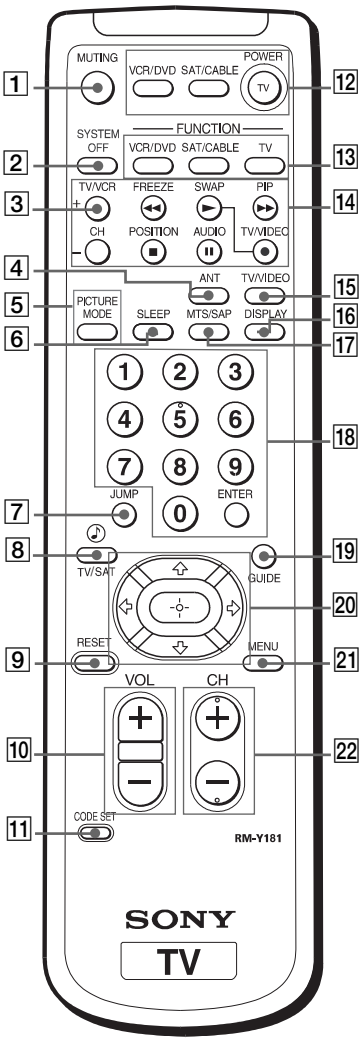
- ❏ Press MENU to display the on-screen menu.
- ❏ Use the ⊕ and ⊖ buttons on the front Audio/Video panel instead of your remote control.
- ❏ Use the ⊹ button on the front Audio/Video panel to navigate ⇨, then select an item. The front panel controls also allows you to change your channels CH+/-, adjust the volume VOL +/-, and change video inputs.

✍ To navigate the menus with your remote control, see "Using the Menus" on page 33.

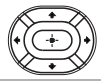
Using the Remote Controls

Model RM-Y181

For KV-27FV300 model



	Button	Description
1	**MUTING**	Press to turn off the sound. Press again or press VOL + to restore sound.
2	**SYSTEM OFF**	Press to power off the equipment programmed into the remote control, see "Programming the Remote Control" on page 49.
3	**TV/VCR**	Press to switch between TV and VCR mode. If you have a non-Sony VCR, you will need to program the remote control to recognize your VCR. For details, see "Programming the Remote Control" on page 49.
4	**ANT (antenna)**	Press to change from VHF/UHF input to the AUX input, press again to switch back.
5	**PICTURE MODE**	Press repeatedly to step through the available video picture modes: Vivid, Standard, Movie and Sports. Also available in the Video menu. See "Using the Video Menu" on page 34 for details.
6	**SLEEP**	Press repeatedly until the TV displays the time in minutes (15, 30, 45, 60, or 90) that you want the TV to remain on before shutting off automatically. Cancel by pressing until Sleep Off appears. While Sleep feature is set, press once to view remaining time.
7	**JUMP**	Press to jump back and forth between two channels. The TV alternates between the current channel and the last channel that was selected.
8	**TV/SAT**	Press to switch between the TV and SAT (satellite) inputs when in SAT FUNCTION mode.
	♪	Press for a direct selection of Effect settings (Simulated, WOW, TruSurround, Off), when the remote is in TV FUNCTION mode. See "Using the Audio Menu" on page 35 for details.
9	**RESET**	Press to return to factory settings while in an on-screen menu.
10	**VOL (volume)**	Press (+) or (-) to adjust the volume.
11	**CODE SET**	Use to program your remote control to operate connected video equipment. See "Programming the Remote Control" on page 49.

	Button	Description
12	**POWER buttons**	Press to turn on and off the TV and other audio/video equipment you have programmed into the remote control. For instructions, see "Programming the Remote Control" on page 49.
13	**FUNCTION buttons**	Press to select the equipment (TV, VCR/DVD, SAT/CABLE) that you want to operate with the remote control. The indicator (LED) lights up momentarily when pushed to show which device the remote control is operating.
14	**PIP (Picture in Picture)**	Operates PIP feature. See "Using Picture in Picture (PIP) with Remote Y181" on page 24.
	VCR (operating)	Operates your VCR. The VCR must be programmed into the remote control. For instructions, see "Programming the Remote Control" on page 49.
	REC	Press ⊙ button and the ⊖ button - above left - at the same time to record any programs with your VCR (the remote control must be programmed in order to use REC.)
	▶▶	Fast-forward.
	►	Play.
	■	Stop.
	❚❚	Pause. Press again to resume normal playback.
15	**TV/VIDEO**	Press to cycle through available video inputs.
16	**DISPLAY**	Press once to display the current time and program status (such as channel number, channel label (if set), video input, and video label). Press again to turn display off.
17	**MTS/SAP**	Press to cycle through the Multi-channel TV Sound (MTS) options: Stereo, Auto SAP (Second Audio Programming), and Mono.
18	**⓪-⑨ and ENTER**	Press to change channels directly. The channel changes after 2 seconds.
19	**GUIDE**	Press to display the program guide of your satellite antenna.
20		Press the arrow buttons to move the cursor in the on-screen menus. Press the center button to select or access an option.
21	**MENU**	Press to display the on-screen menu. Press again to exit the menu at any time.
22	**CH (channel)**	Press to change channels. To scan rapidly through the channels, press and hold down the CH+ or CH- button.

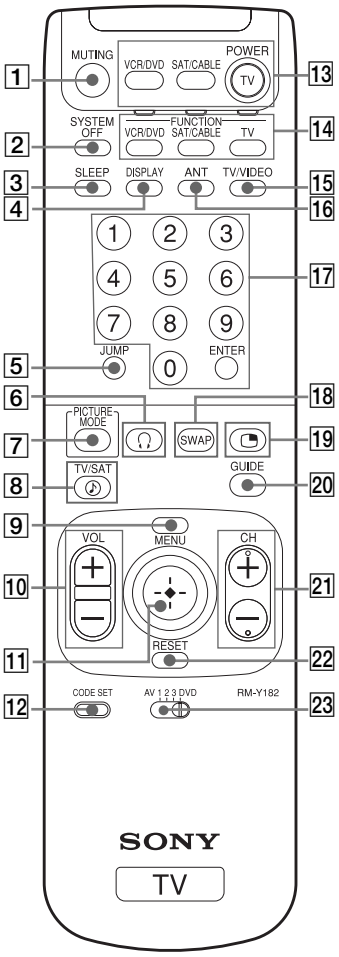
✍ For information on Picture in Picture (PIP) operation buttons, see page 25.

✍ If you lose your remote control, see page 54.

Model RM-Y182

For KV-32FV300, KV-36FV300 models

Outside Panel

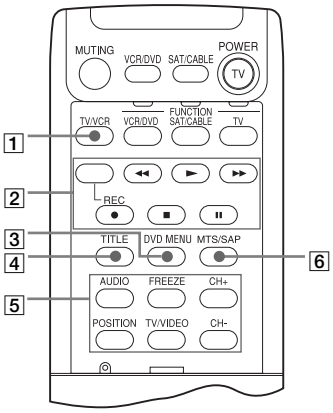


	Button	Description
1	**MUTING**	Press to turn off the sound. Press again or press VOL + to restore the sound.
2	**SYSTEM OFF**	Press to power off the equipment programmed into the remote control, see "Programming the Remote Control" on page 49.
3	**SLEEP**	Press repeatedly until the TV displays the time in minutes (15, 30, 45, 60, or 90) that you want the TV to remain on before shutting off automatically. Cancel by pressing until Sleep Off appears. While Sleep feature is set, press once to view remaining time.
4	**DISPLAY**	Press once to display the current time and program status (such as channel number, channel label (if set), video input, and video label). Press again to turn display off.
5	**JUMP**	Press to jump back and forth between two channels. The TV alternates between the current channel and the last channel that was selected.
6		Press to turn the headphones on and off.
7	**PICTURE MODE**	Press repeatedly to step through the available video picture modes: Vivid, Standard, Movie and Sports. Also available in the Video menu. See "Using the Video Menu" on page 34 for details.
8	**TV/SAT**	Press to switch between the TV and SAT (satellite) inputs when in SAT FUNCTION mode.
		Press for a direct selection of Effect settings (Simulated, WOW, TruSurround, Off), when the remote is in TV FUNCTION mode. See "Using the Audio Menu" on page 35 for details.
9	**MENU**	Press to display the on-screen menu. Press again to exit the menu at any time.
10	**VOL (volume)**	Press (+) or (-) to adjust the volume.
11		Use the joystick to move the on-screen cursor. Press down on the center of the joystick to select the item.
12	**CODE SET**	Use to program your remote control to operate connected video equipment. See "Programming the Remote Control" on page 49.

	Button	Description
13	**POWER buttons**	Press to turn on and off the TV and other audio/video equipment you have programmed into the remote control. For instructions, see "Programming the Remote Control" on page 49.
14	**FUNCTION buttons**	Press to select the equipment (TV, VCR/DVD, SAT/CABLE) that you want to operate with the remote control. The indicator (LED) lights up momentarily when pushed to show which device the remote control is operating.
15	**TV/VIDEO**	Press to cycle through available video inputs.
16	**ANT (antenna)**	Press to change between the VHF/UHF input to the AUX input, press again to switch back.
17	**0–9 and ENTER**	Press to change channels directly. The channel changes after 2 seconds.
18	SWAP	See "Using Picture in Picture (PIP) with Remote Y182" on page 26 for details.
19		See "Using Picture in Picture (PIP) with Remote Y182" on page 26 for details.
20	**GUIDE**	Press to display the program guide of your satellite antenna.
21	**CH (channel)**	Press to change channels. To scan rapidly through the channels, press and hold down the CH+ or CH- button.
22	**RESET**	Press to return to the factory settings while in an on-screen menu.
23	AV 1 2 3 DVD	Use to switch control for connected video equipment. You can program one video source for each switch position. For details, see "Programming the Remote Control" on page 49.

✍ If you lose your remote control, see page 54.

Inside Panel

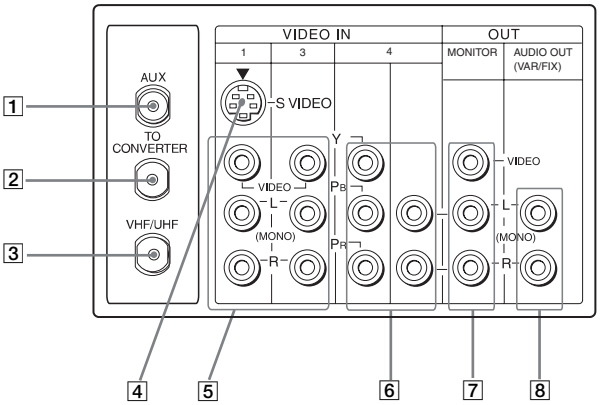


	Button	Description
1	**TV/VCR**	Press to switch between TV and VCR mode. If you have a non-Sony VCR, you will need to program the remote control to recognize your VCR. For details, see "Programming the Remote Control" on page 49.
2	**VCR (operating)**	Operates your VCR. The VCR must be programmed into the remote control. For instructions, see "Programming the Remote Control" on page 49.
	◀◀	Rewind.
	REC	Press the REC button and the blank button - above, left - at the same time to record any programs with your VCR (the remote control must be programmed in order to use REC.)
	▶▶	Fast-forward.
	▶	Play.
	■	Stop.
	❚❚	Pause. Press again to resume normal playback.
3	**DVD MENU**	Press to display the DVD's menu.
4	**TITLE**	Press to display the DVD's Title menu.
5	**PIP (Picture in Picture)**	Press to operate PIP feature. See "Using Picture in Picture (PIP) with Remote Y182" on page 26.
6	**MTS/SAP**	Press to cycle through the Multi-channel TV Sound (MTS) options: Stereo, Auto SAP (Second Audio Programming), and Mono.

Connecting Your TV

Read this section before setting up your TV for the first time. This section covers basic connections in addition to any optional equipment you may be connecting.

TV Rear Panel



Jack	Description
1 **AUX**	Allows you to view local and cable channels if your cable provider does not feature local channels. You can switch between local and cable channels easily by pressing ANT on the remote control. Devices connected to the AUX input cannot be viewed in PIP.
2 **TO CONVERTER**	This is a VHF/UHF out jack that lets you set up your TV to switch between scrambled channels (through a cable box) and normal cable channels (CATV). Use this jack instead of a splitter to get better picture quality when you need to switch between scrambled and unscrambled cable channels.
3 **VHF/UHF**	Connects to your VHF/UHF antenna or cable.
4 **S VIDEO**	Connects to the S VIDEO OUT jack on your VCR or other video equipment that has S VIDEO. S VIDEO provides better picture quality than the VHF/UHF jacks or the video input jack. S VIDEO does not provide sound; you still must connect the audio cables.

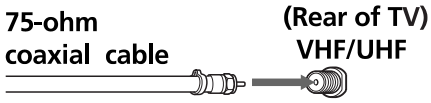
Jack	Description
5 **AUDIO (L/R)/VIDEO**	Connects to the AUDIO and VIDEO output jacks on your VCR or other video equipment. A third video input jack (VIDEO 2) is located on the front panel of the TV. These AUDIO/VIDEO input jacks provide better picture quality than the VHF/UHF jack.
6 **Y, P_B, P_R/ L, R**	Connects to the component video Y, P_B, P_R, and AUDIO L and R jacks on your DVD player or digital set-top box (480i only).
7 **MONITOR OUT**	Lets you record the program you are watching to a VCR. When two VCRs are connected (see "Connecting Two VCRs for Tape Editing" on page 15), you can use your TV as a monitor for tape-to-tape editing.
8 **AUDIO OUT (VAR/FIX) L(MONO)/R**	Connects to the AUDIO L and R input jacks on your audio or video equipment. You can listen to your TV's audio through your stereo system.

Basic Connections

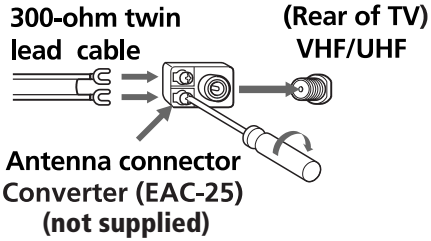
TV with Indoor or Outdoor Antenna, or CATV Cable

Depending on the cable available in your home, choose one of the connections below:

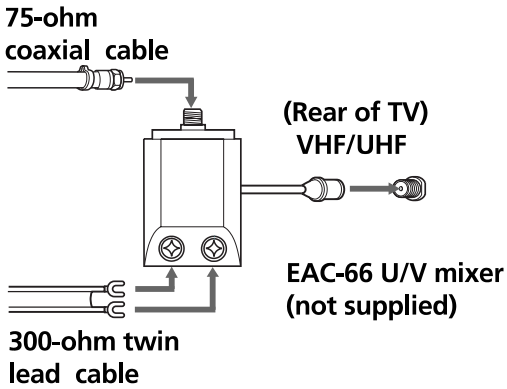
A VHF only or VHF/UHF or Cable



B VHF only or UHF only or VHF/UHF



C VHF and UHF

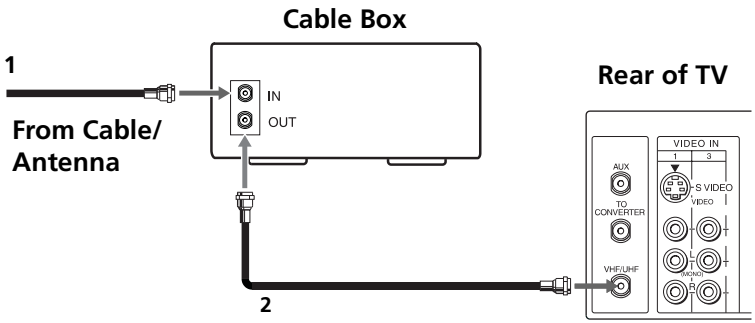


✍ If you are connecting to an indoor or outdoor antenna, you may need to adjust the orientation of the antenna for best reception.

Cable Box Connections

Some cable TV systems use scrambled or encoded signals that require a cable box to view all channels. If you subscribe to that kind of cable service, use this connection. Scrambled signals coming in to the TV through the cable box cannot be viewed in PIP. If some of your channels are scrambled, consider using the Cable Box and Cable connection.

Cable Box and TV



1 Connect the coaxial cable from your cable service to the IN jack on your cable box.

2 Connect a coaxial cable (not supplied) from the OUT jack on your cable box to the VHF/UHF jack on your TV.

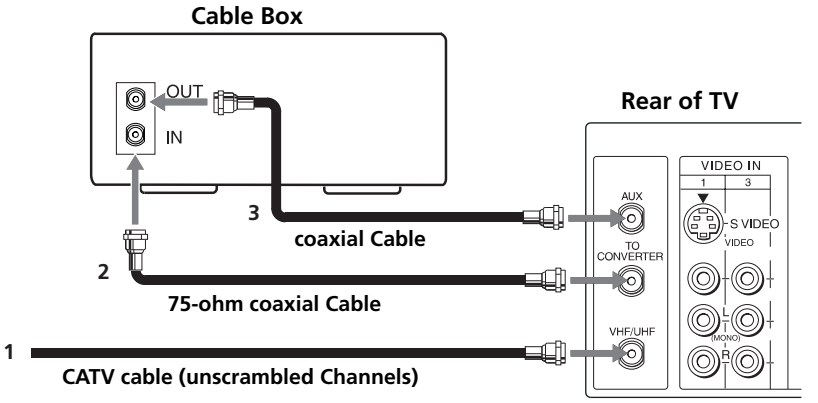
✍ If you will be controlling all channel selection through your cable box, you should consider using the Channel Fix feature to set your TV to channel 3 or 4 (see page 37).

Cable Box and Cable

Use this connection if you subscribe to a cable system that scrambles some channels (pay channels) but not all of them. This setup allows you to use the remote control to:

- ❏ change channels through your cable box when you are receiving a scrambled signal
- ❏ change channels through your TV

This connection also allows you to use the PIP feature when you are viewing unscrambled channels coming directly into your TV from your cable. Scrambled signals coming through the cable box cannot be viewed in PIP. For more information on the PIP feature, see page 24 or 26.



1 Connect the coaxial cable from your cable service to the VHF/UHF jack on your TV.

2 Using a coaxial cable (not supplied), connect the IN jack on your cable box to the TO CONVERTER jack on your TV.

3 Using a coaxial cable (not supplied), connect the OUT jack on your cable box to the AUX jack on your TV.

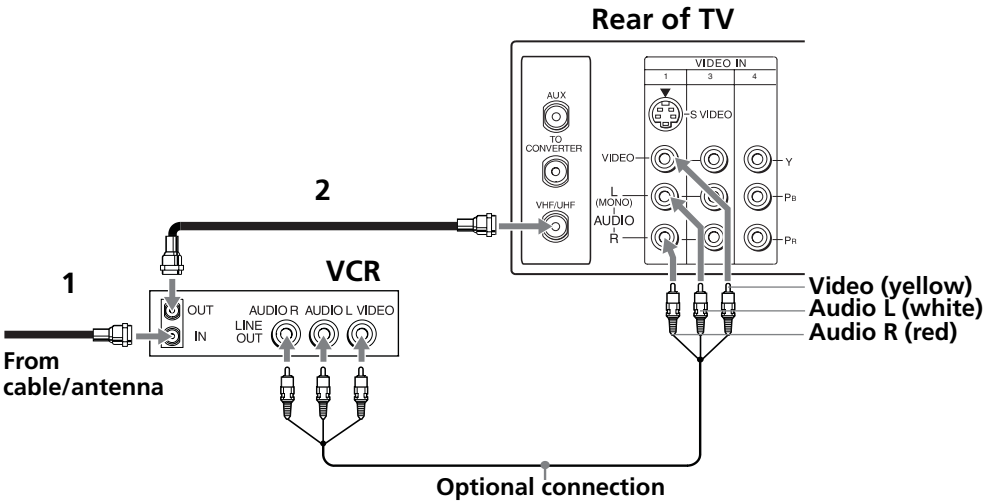
✍ Press the ANT button on the remote control to switch between the cable box and direct cable inputs.

✍ Your Sony remote control can be programmed to operate your cable box (see page 50).

✍ To use the cable box to change your channels, set your TV to channel 3 or 4. Use the Channel Fix feature to ensure that you don't accidentally switch channels using your TV (see page 37).

Connecting Additional Equipment

Connecting a TV and VCR



✍ To watch video programs from your VCR, tune your TV to channel 3 or 4 (as set on the rear of your VCR).

1 Connect the coaxial cable from your TV antenna or cable service to the IN jack on your VCR.

2 Connect a coaxial cable (not supplied) from the OUT jack on your VCR to the VHF/UHF jack on the TV.

Optional connection

If your VCR is equipped with video outputs, you can get better picture quality by connecting audio/video cables (not supplied) from AUDIO and VIDEO OUT on your VCR to AUDIO/VIDEO IN on your TV.

✍ You can use the TV/VIDEO button to switch between the VHF/UHF and VIDEO inputs.

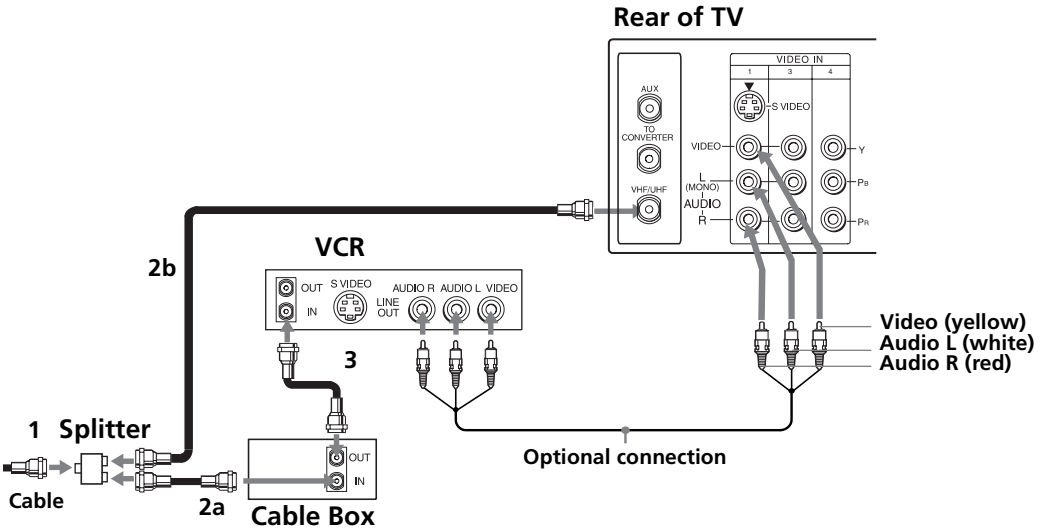
✍ For better picture quality, use S VIDEO instead of the yellow audio/video cable. S VIDEO does not provide sound; you still must connect the audio cables.

Connecting a TV, VCR, and Cable Box

Use this connection if you subscribe to a cable system that scrambles some channels (pay channels), but not all of them. This setup allows you to use the remote control to:

- ❏ change channels through your cable box or VCR when you are receiving a scrambled signal
- ❏ change channels through your TV

This connection also allows you to use the PIP feature when you are viewing unscrambled channels coming directly into your TV from your cable. Scrambled signals coming through the cable box cannot be viewed in PIP. For more information on the PIP feature, see page 24 or 26.



1 Connect the single input jack of the splitter to your incoming cable connection.

2 Using a coaxial cable (not supplied), connect the two output jacks of the splitter to:

a) the IN jack on your cable box, and

b) the VHF/UHF jack on the TV.

3 Using a coaxial cable (not supplied), connect the OUT jack on your cable box to the IN jack on your VCR.

✍ If you will be controlling all channel selections through your cable box, you should consider using the Channel Fix feature to set your TV to channel 3 or 4 (see page 37).

Optional connection

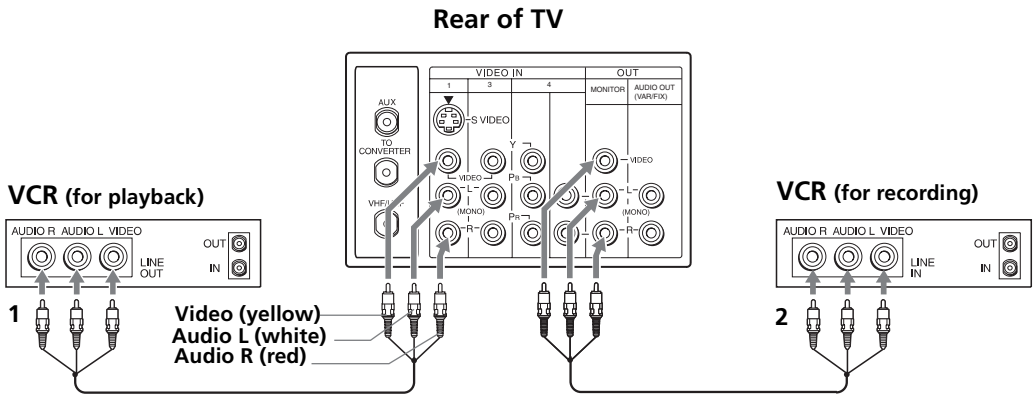
If your VCR is equipped with video outputs, you can get better picture quality by connecting audio/video cables (not supplied) from AUDIO and VIDEO OUT on your VCR to AUDIO/VIDEO IN on your TV.

✍ For better picture quality, use S VIDEO instead of the yellow audio/video cable. S VIDEO does not provide sound; you still must connect the audio cables.

✍ You can use the TV/VIDEO button to switch between the VHF/UHF and VIDEO inputs.

Connecting Two VCRs for Tape Editing

You can connect two VCRs together to edit video tapes. You can also connect both VCRs to your TV to view the program being recorded.

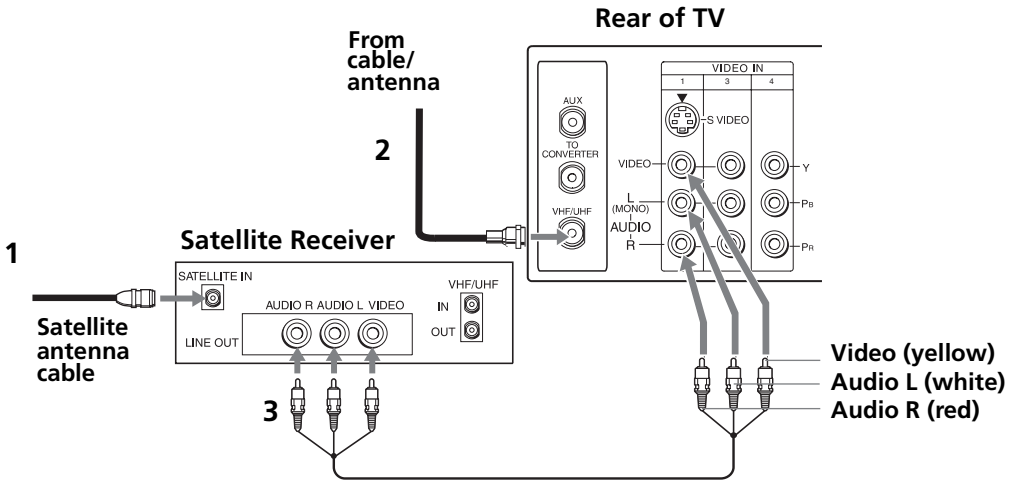


1 Using audio/video cables (not supplied), connect AUDIO and VIDEO OUT on your first VCR to AUDIO and VIDEO IN on your TV.

2 Using audio/video cables (not supplied), connect AUDIO and VIDEO IN on the second VCR to the MONITOR AUDIO and VIDEO OUT on your TV.

✍ To perform tape editing, set the TV to the video input intended for playback by pressing TV/VIDEO.

Connecting a TV and Satellite Receiver



1 Connect the cable from your satellite antenna to SATELLITE IN on your satellite receiver.

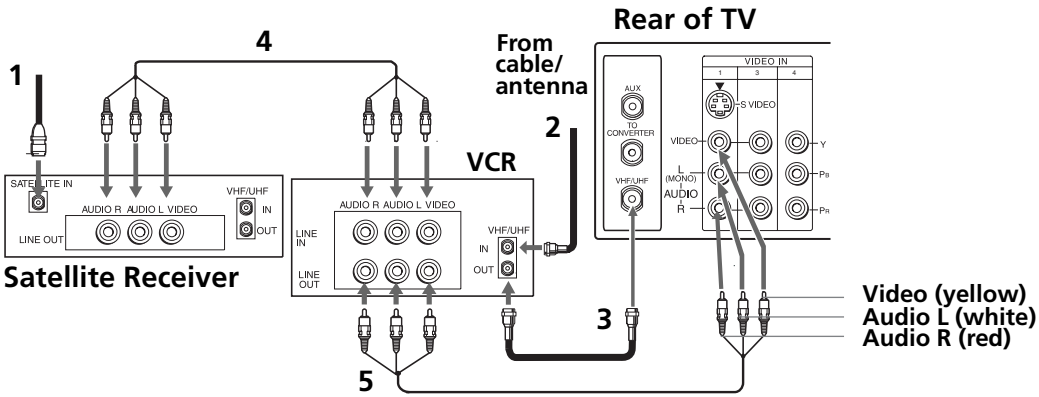
2 Connect the coaxial cable from your cable service or antenna to the VHF/UHF jack on your TV.

3 Using audio/video cables (not supplied), connect AUDIO and VIDEO OUT on your satellite receiver to AUDIO and VIDEO IN on your TV.

✍ You can use the TV/VIDEO button to switch between the VHF/UHF and VIDEO inputs.

✍ For better picture quality, use S VIDEO instead of the yellow audio/video cable. S VIDEO does not provide sound; you still must connect the audio cables.

Connecting a TV, Satellite Receiver, and VCR



1 Connect the coaxial cable from your satellite antenna to SATELLITE IN on the satellite receiver.

2 Connect the coaxial cable from your cable service or antenna to the IN jack on your VCR.

3 Using a coaxial cable (not supplied), connect the OUT jack on your VCR to the VHF/UHF jack on your TV.

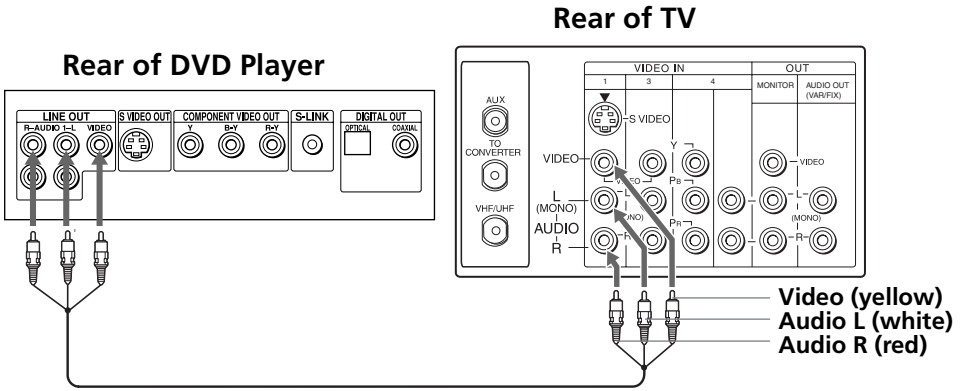
4 Using audio/video cables (not supplied), connect AUDIO and VIDEO OUT on your satellite receiver to AUDIO and VIDEO IN on your VCR.

5 Using audio/video cables (not supplied), connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.

✍ To view from the satellite receiver or VCR, select the video input to which your satellite receiver or VCR is connected by pressing TV/VIDEO on the remote control.

Connecting a DVD Player

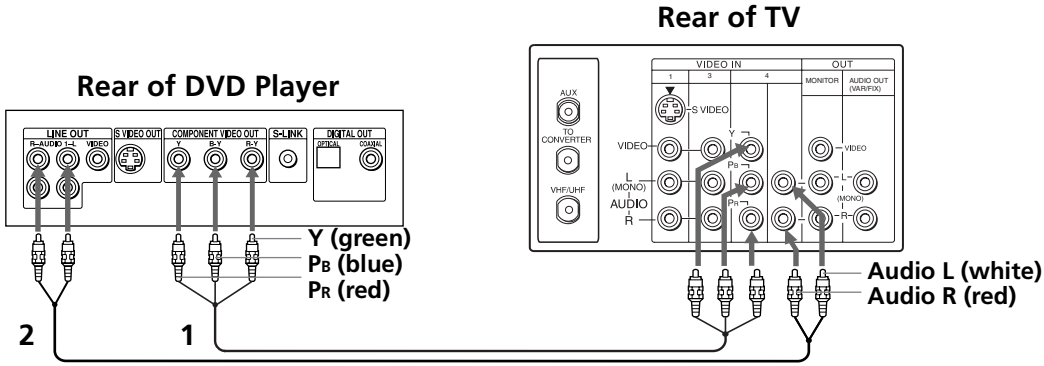
Using audio/video cables (not supplied), connect AUDIO and VIDEO OUT on your DVD player to AUDIO and VIDEO IN on your TV.



✍ For better picture quality, use S VIDEO instead of the yellow Audio/Video cable. S VIDEO does not provide sound; you still must connect the audio cables.

Optional connection

If your DVD player is equipped with component video outputs (Y, P_B, P_R), you can improve the picture quality by using component video cables (480i only).



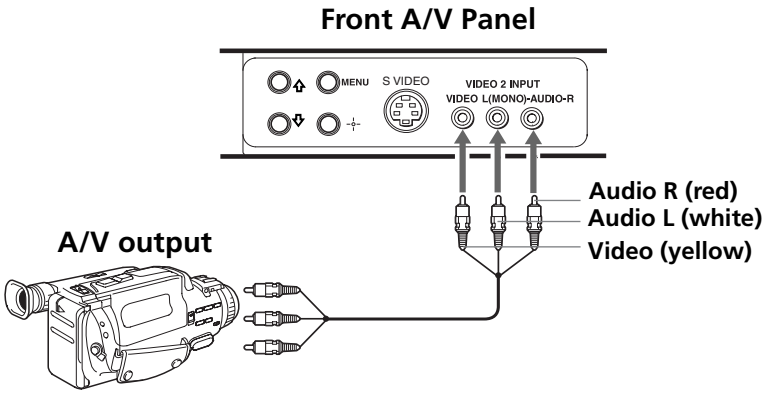
1 Using component video cables (not supplied), connect the Y, P_B, P_R OUT on your DVD player to Y, P_B, P_R IN on your TV.

2 Connect AUDIO OUT on your DVD player to AUDIO IN on your TV.

✍ The Y, P_B, P_R outputs on your DVD player are sometimes labeled Y, C_B, and C_R or Y, B-Y, and R-Y. If so, connect the cables to like colors.

Connecting a Camcorder

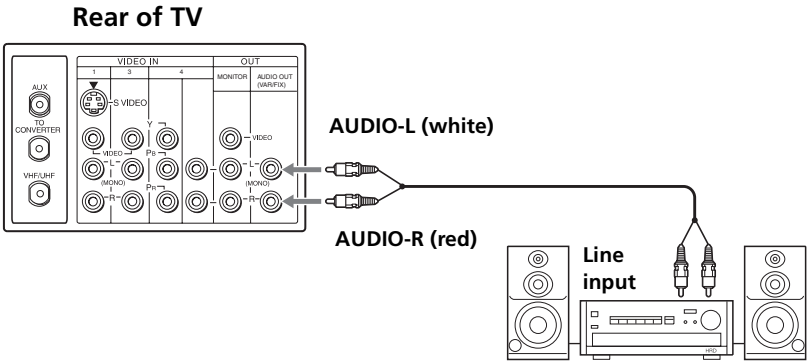
Using audio/video cables (not supplied), connect AUDIO and VIDEO OUT on your camcorder to AUDIO and VIDEO IN on your TV.



✍ If the camcorder has an S VIDEO jack, you can use an S VIDEO cable to improve picture quality; replace the yellow video cable of the combination Audio/Video cable with the S VIDEO cable. You will still need audio cables for sound.

Connecting an Audio System

Using audio cables (not supplied), connect AUDIO OUT on your TV to one of the unused line inputs (e.g. TV, AUX, TAPE2) on your stereo.



✍ Set your stereo to the selected line input. See "Using the Audio Menu" on page 35 for additional audio setup instructions.

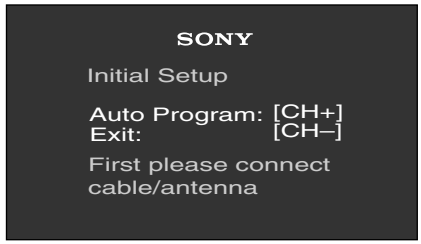
Using Basic Functions

Setting Up the TV Automatically

After you have finished connecting your TV, you can perform Auto Program to set up your channels. When Auto Programming, the TV will automatically search for available channels and program receivable channels.

✍ The direction in this manual will refer to the remote control that incorporates a joystick (RM-Y182). See "Using the Remote Control" on page 3 for further details on this remote.

1 Press POWER (TV) to turn on the TV. The Initial Setup screen appears.



2 Press CH + on the remote control or on the TV front panel to perform Auto Program, or press CH – to exit.

✍ The Initial Setup screen appears each time you turn on the TV until you perform Auto Program.

To perform Auto Program again

1 Press MENU.

2 Use the joystick to highlight Channel Setup Menu.

3 Use the joystick to scroll down to highlight Cable. Press ⊕ to select.

4 Use the joystick to scroll up and down select On or Off according to how you connected your TV. Press ⊕.

5 Use the joystick to highlight Auto Program. Press ⊕ to search for channels.

6 After performing Auto Program, press MENU to exit.

To reset the TV to factory settings

1 Turn the TV on.

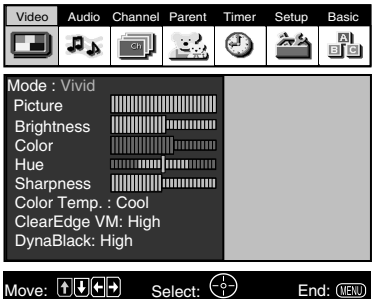
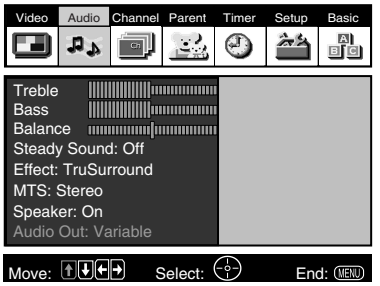
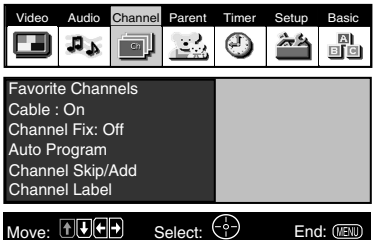
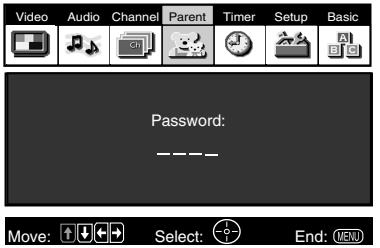
2 Hold down RESET on the remote control.

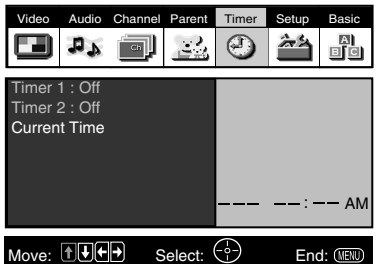
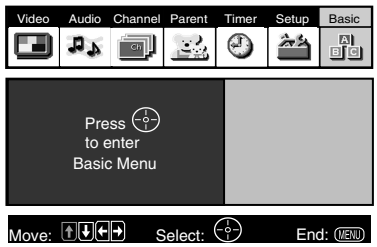
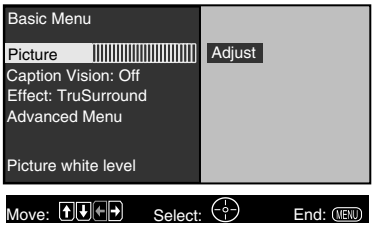
3 Press and release the POWER button on the TV front panel. (The TV will turn itself off, then back on.)

4 Release RESET.

Quick Start to the Menus

The following settings are available in your on-screen menus. For more details on how to use the menus, see “Using the Menus” on page 33.

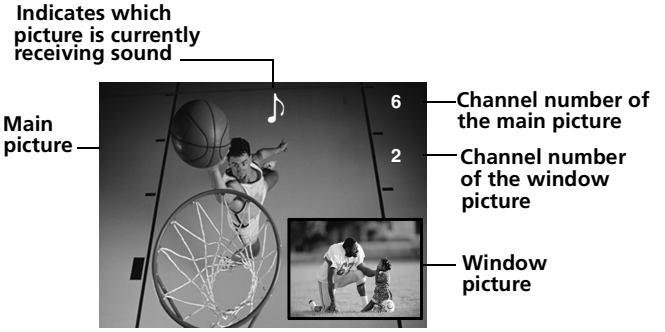
Menu	Allows you to
	Make adjustments to your picture settings.
	Change your audio settings.
	Customize your channel settings.
	Set rating limits on your TV based on program rating or content.

Menu	Allows you to
	Set the clock on your TV and program scheduled viewing using Timer 1 and Timer 2.
	Select closed captioning options, label video inputs, adjust tilt correction, enhance your picture resolution for your DVD (16:9 Enhanced), select menu language, or run a demo of the menus.
	
	Set the menus to display a simplified menu of most commonly-used menu settings.

Using Picture in Picture (PIP) with Remote Y181

The Picture-in-Picture (PIP) feature allows you to view two programs simultaneously, one in the full size "main" picture and one in a small "window" picture.

Displaying Picture in Picture



To use PIP

1. Press the TV button in the FUNCTION bar to control PIP with the yellow-labeled buttons. Tune your TV to a channel which you know is currently airing programming.
2. Press the PIP button to display the window picture.
3. Use the PIP (yellow) CH +/- buttons to change the channel in the PIP window picture.

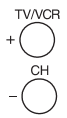
To check your PIP

1. Press the TV button in the FUNCTION bar to control PIP with the yellow-labeled buttons. Tune your TV to a channel which you know is currently airing programming.
2. Press the PIP to turn PIP on. Press SWAP, the channel from the main window should now appear in the window picture.
3. Select the same channel in the main picture (use the CH+/- buttons on the bottom of your remote control). You should now have the same program playing in both windows.
4. Use the PIP (yellow) CH+/- buttons to change the channel in the PIP window picture.
5. Press the TV/VIDEO PIP (yellow) button to switch the PIP window to other video inputs for other equipment that is connected to any of the VIDEO IN jacks of your TV. You should see a different picture in your PIP window for each piece of connected video equipment. Make sure the connected equipment is turned on and working when you perform this test.
6. If the PIP feature does not work properly with the TV or the connected video equipment, refer to the troubleshooting section beginning on page 52.

✍ If you're having problems with PIP, refer to "Setups that Affect Your Ability to Use PIP" (page 28) or see Troubleshooting section (page 52) for possible solutions.

PIP Functions buttons

For KV-27FV300 model

Yellow labeled PIP button	Description
	Press to turn the PIP feature on and off. Press repeatedly to change the window size (1/9, 1/16, Off).
	Press to cycle through the available video equipment you have connected to the TV (in the PIP window picture).
	Press to alternate sound between the main picture and the PIP window picture. The sound symbol ♪ appears for three seconds, indicating whether you are hearing the sound from the main or PIP window picture.
	Press to change the channel in the PIP window picture. To change the channel in the main window, use the main CH+/- buttons at the bottom of the remote control.
	Press to move the location of the window picture to any of the four corners of the screen.
	Press to freeze the window picture. Press again to restore the picture. The main window continues to play as usual.
	Press to switch the main picture with the PIP window picture. Press again to switch back.

✍ For more information about your remote control, see "Using the Remote Controls" on page 3.

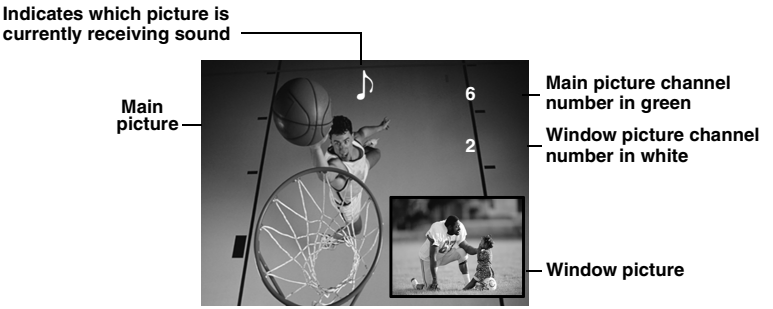
To change channels/programs in the PIP window

- ❏ Use the yellow PIP CH+/- button to scroll through TV channels.
- ❏ Use the yellow TV/VIDEO button to cycle through your other video equipment connected to the TV, such as your VCR, DVD player, or satellite receiver.

Using Picture in Picture (PIP) with Remote Y182

The Picture-in-Picture (PIP) feature allows you to view two programs simultaneously, one in the full size "main" picture and one in a small "window" picture.

Displaying Picture in Picture



To use PIP

1. Press the TV button in the FUNCTION bar to control PIP with the yellow-labeled buttons. Tune your TV to a channel which you know is currently airing programming.
2. Press the ◔ button to display the window picture.
3. Use the PIP (yellow) CH+/- buttons to change the channel in the PIP window picture.

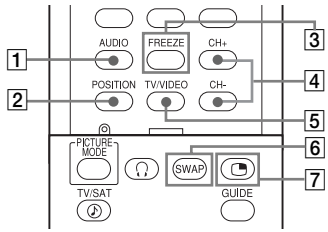
To check your PIP

1. Press the TV button in the FUNCTION bar to control PIP with the yellow-labeled buttons. Tune your TV to a channel which you know is currently airing programming.
2. Press the ◔ to turn PIP on. Press SWAP, the channel from the main window should now appear in the window picture.
3. Select the same channel in the main picture (use the CH+/- buttons on the bottom of your remote control). You should now have the same program playing in both windows.
4. Use the PIP (yellow) CH+/- buttons to change the channel in the PIP window picture.
5. Press the TV/VIDEO PIP (yellow) button to switch the PIP window to other video inputs for other equipment that is connected to any of the VIDEO IN jacks of your TV. You should see a different picture in your PIP window for each piece of connected video equipment. Make sure the connected equipment is turned on and working when you perform this test.
6. If the PIP feature does not work properly with the TV or the connected video equipment, refer to the troubleshooting section beginning on page 52.

✍ If you're having problems with PIP, refer to "Setups that Affect Your Ability to Use PIP" (page 28) or see Troubleshooting section (page 52) for possible solutions.

PIP Functions buttons

For KV-32FV300, KV-36FV300 model



Yellow-labeled PIP Button	Description
1 AUDIO	Press to alternate sound between the main picture and the PIP window picture. The sound symbol (♪) appears for 3 seconds, indicating whether you are hearing sound from the main picture or the PIP window picture.
2 POSITION	Press to move the location of the window picture to any of the four corners of the screen.
3 FREEZE	Press to freeze the window picture. Press again to restore the window picture. The main window continues to play as usual.
4 CH+ CH–	Press to change the channel in the PIP window picture. To change the channel in the main window, use the main CH+/- buttons at the bottom of the remote control.
5 TV/VIDEO	Press to cycle through the available video equipment you have connected to the TV (in the PIP window picture).
6 SWAP	Press to switch the main picture with the PIP window picture. Press again to switch back.
7	Press to turn the PIP feature on and off. Press repeatedly to change the window size (1/9, 1/16, Off).

✍ For more information about your remote control, see "Using the Remote Controls" on page 3.

To change channels/programs in the PIP window

- ❏ Use the yellow PIP CH+/- button to scroll through TV channels.
- ❏ Use the yellow TV/VIDEO button to cycle through your other video equipment connected to the TV, such as your VCR, DVD player, or satellite receiver.

Setups that Affect Your Ability to Use PIP

- Any video equipment you have connected to the AUX input cannot be viewed in the PIP window.
- If you are viewing all channels through a cable box, the PIP feature will not work. The cable box only unscrambles one signal at a time, so the window picture will be the same as the main picture.
- You can use PIP to see pictures from different sources on your TV. For example, you can have a regular (CATV) channel and the output from a VCR, DVD player or satellite receiver on screen at the same time using PIP. To do this:

  1 Connect the CATV cable to the VHF/UHF input on the back of the TV.

  2 Connect the peripheral (VCR, DVD player or satellite receiver) to any of the VIDEO IN inputs on the the back of the TV.

  3 Tune to one image in the main picture.

  4 Tune to a second image in the PIP window.

  You can then SWAP the images on the TV screen.

✍ You cannot use a signal from the AUX input with PIP.

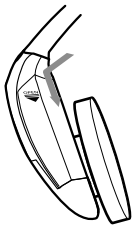
Using Wireless Headphones

✍ Wireless headphones are included and can be used only with Sony TV models KV-32FV300 and KV36FV300.

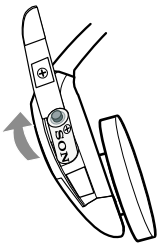
Installing the Battery

Install the supplied size AA (R6) battery into the headphones.

1 Open the battery compartment lid by pressing and sliding the lid as illustrated.



2 Insert the battery into the compartment with the positive side up and then close the lid.



When used continuously, the battery lasts:

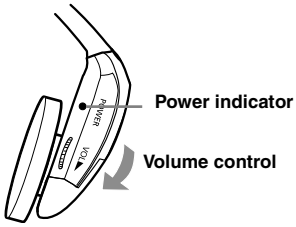
- ❏ up to 40 hours with an alkaline battery
- ❏ up to 20 hours with a manganese battery

Replace the battery with a new one when the sound becomes weak.

Using the Headphones

1 Press . (The icon and channel number display.)

2 Place the headphones securely onto your head.



To listen to sound only from wireless headphones

❏ Turn down the TV speaker level, or press MUTING on the remote control.

To turn off headphones

❏ Put down the headphones and press .

To ensure optimal sound reception with headphones

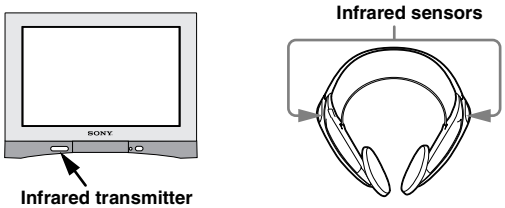
❏ Be sure that the infrared transmitter on the TV and the infrared sensors on the headphones have a clear (unobstructed) line of sight to one another.

To protect the TV's infrared transmitter from possible damage

❏ Press to turn off the headphone feature when the headphones are not in use.

To protect your hearing from sudden or prolonged excessive volume

❏ Set the headphone volume just high enough to hear comfortably.



✍ For optimal sound quality, be sure that the infrared transmitter on the TV and the infrared sensors on the headphones are not obstructed and can "see" one another.

Listening to Sound from Main and PIP Window Pictures

To use your headphones to listen to the sound from the main or window picture (when using PIP), select the audio source.

1 If PIP is not displayed, press ⧉ to display a PIP window.

2 Press 🎧.

The 🎧 icon and channel number appear for about three seconds. The 🎧 is level with the channel number of the main picture.

Main picture audio

Press 🎧 again to switch the audio to the PIP window.
The 🎧 icon changes, dropping down to the level of the PIP channel.

Window picture audio

3 When you are finished using the headphones, press 🎧 to turn them off.

Headphones off

✍ When you exit PIP, the sound will return to the main picture. SAP (Second Audio Program) are not available in the PIP Window. The audio to the headphones automatically turns off when you turn off the TV.

Using the Menus

This section shows the options available for setting up and adjusting the TV.

Depending on the model of television that you have purchased, your remote control will have either a joystick (RM-Y182), or directional buttons (⇧ ⇩ ⇦ ⇨) and a ⊕ button (RM-Y181).

✍ The directions in this manual will refer to the remote control that incorporates a joystick (RM-Y182). See "Using the Remote Control" on page 3 for further details of this remote.

How to access menus with Remote Control Y182

1. Press MENU to display the on-screen menu.
2. Use the joystick to highlight the desired menu icon. Press ⊕ to select it.
3. Use the joystick to scroll up and down through the features.
4. Follow the instructions on the screen.
5. See the specific menu page for instructions on moving through the menu.
6. Press MENU to exit the menu.

How to access menus with Remote Control Y181

1. Press MENU to display the on-screen menu.
2. Use the ⇦ or ⇨ buttons to highlight the desired menu icon. Press ⊕ to select it.
3. Use the ⇧ or ⇩ buttons to scroll up and down through the features.
4. Follow the instructions on the screen.
5. See the specific menu page for instructions on moving through the menu.
6. Press MENU to exit the menu.

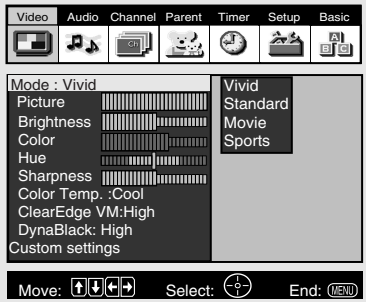
✍ Depending on the model, press MENU once to display the on-screen menu, and press again to return to normal viewing. If no buttons are pressed, the menu closes automatically after about 90 seconds.

Using the Video Menu

To access the Video menu, refer to the following steps using the joystick of your remote control:

To Display **To Select**

Press joystick ⇩ to highlight an option then press ⊕.



Mode *Customized picture viewing*	Use the joystick to scroll up or down to select from one of the following options, then press ⊕ to select it. **Vivid:** Select for enhanced picture contrast and sharpness. **Standard:** Select for a standard picture. **Movie:** Select for a finely detailed picture. **Sports:** Select for a bright picture.	

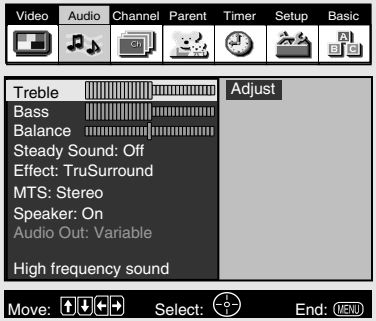
✍ Press PICTURE MODE button on the remote control for direct access to the Picture Modes (Vivid, Standard, Movie, Sports).

Picture Controls	**Picture:**	Press the joystick left to decrease the contrast. Press the joystick right to increase the contrast.
	Brightness:	Press the joystick left to darken the picture. Press the joystick right to brighten the picture.
	Color:	Press the joystick left to decrease the color saturation. Press the joystick right to increase the color saturation.
	Hue:	Press the joystick left to increase the red tones. Press the joystick right to increase the green tones.
	Sharpness:	Press the joystick left to soften the picture. Press the joystick right to sharpen the picture.
Color Temp. *White tint adjustment*	Use the joystick to scroll up or down to select from one of the following options, then press ⊕ to select it. **Cool:** Gives white colors a blue tint. **Neutral:** Gives white colors a neutral tint. **Warm:** Gives white colors a red tint.	
ClearEdge VM	Sharpens picture definition to give objects a sharp, clean edge. Use the joystick to scroll up or down to select from one of the following options: **Off**, **High**, **Low**, then press ⊕.	
DynaBlack	Improves contrast and sharpens image detail. Use the joystick to scroll up or down to select from one of the following options: **Off**, **High**, **Low**, then press ⊕.	

Using the Audio Menu

To access the Audio menu, refer to the following steps:

Press joystick ⇩ to highlight an option then press ⊕.



Treble	Press the joystick left to decrease higher pitched sound. Press the joystick right to increase higher pitched sound.
Bass	Press the joystick left to decrease lower pitched sound. Press the joystick right to increase lower pitched sound.
Balance	Press the joystick left to emphasize the left speaker. Press the joystick right to emphasize the right speaker.
Steady Sound *Stabilizes volume*	Use the joystick to scroll up or down to select from one of the following options, then press ⊕ to select it. **On:** Select to stabilize the volume when changing channels. **Off:** Select to turn Steady Sound Off.
Effect	Use the joystick to scroll up or down to select from one of the following options, then press ⊕ to select it. **Simulated:** Simulates theater quality sound for mono programs. **WOW:** Provides a dramatic presence with a full, deep bass sound. When WOW is enabled, BBE is directly activated to further enhance the audio performance. **TruSurround:** Produces a dynamic three dimensional sound for stereo audio signals. **Off:** Normal stereo or mono reception.

✍ Press TV/SAT for direct selection of Effect settings (Simulated, WOW, TruSurround, Off).

MTS *Multi-Channel TV Sound*	Use the joystick to scroll up or down to select from one of the following options, then press ⊕ to select it. **Stereo:** Select when viewing a broadcast in stereo. **Auto SAP:** Select to have the TV automatically switch to a Second Audio Program (SAP) when a signal is received. **Mono:** Select to reduce noise in areas of poor reception.
✍ Press MTS/SAP button on the remote control for direct access to the MTS settings (Stereo, Auto SAP, Mono).	
Speaker *Custom selection of audio output source*	Use the joystick to scroll up or down to select from one of the following options, then press ⊕ to select it. **On:** Select to listen to the sound from the TV speakers with or without a separate stereo system. **Off:** Select to turn off the TV speakers and listen to the TV's sound only through external audio system speakers.
Audio Out *Use to control the TV's volume through a stereo*	Use the joystick to scroll up or down to select from one of the following options, then press ⊕ to select it. Audio Out settings can only be set when speakers are set to Off. **Variable:** Adjust the volume through your TV. **Fixed:** Adjust the TV volume through a connected stereo.

✍ Audio Out settings can only be set when Speaker is set to Off.

✍ If your TV is set to Auto SAP, some programs may be muted or distorted. If your TV does not output sound, change your Audio MTS setting to Stereo or Mono.

Using the Channel Setup Menu

To access the Channel Setup menu, refer to the following steps:

Press joystick ⇩ to highlight an option then press ⊕.

Favorite Channels
Quick access to favorite channels

Press ⊕ to open the Favorite Channels menu:

1. Use the joystick to scroll up or down to select the position (1-8) where you want to set a favorite channel, then press ⊕.
2. Use the joystick to scroll through the channels until you find the channel you want to add to your favorite channels.
3. Press ⊕ to select it, that will change your TV automatically to the selected channel.
4. Press the joystick left to return to the channel setup menu or press MENU to exit.

✍ To use Favorite Channels: Exit all menus and press ⊕. Press ⇧ or ⇩ to move the cursor to the desired channel number and press ⊕.

Cable

Use the joystick to scroll up or down to select from one of the following options, then press ⊕ to select it.

On: Select if you are receiving cable channels with a CATV cable.
Off: Select if you are using a TV antenna.

✍ After changing your cable settings, you will need to perform Auto Program.

Channel Fix

Use the joystick to scroll up or down to select from one of the following options, then press ⊕ to select it.

2-6: Select when you want to control all channel selection through a cable box or VCR. Select the appropriate channel (usually 3 or 4) and use the cable box's or VCR's remote control for channel selection.
Video 1: Select from available video inputs when you have connected video equipment (e.g. satellite receiver) and you want your TV fixed to it.
AUX 2-6: Use this setting instead of the **2-6** if you want to change channels using a cable box, VCR or satellite receiver and you've connected it to the AUX input.
Off: Channel Fix is not set.

Auto Program

Perform Auto Program whenever setting up your TV.
Auto program will search for available channels and program receivable channels.

Channel Skip/Add

Use this feature after you run Auto Program to skip unwanted channels or add new ones. Press ⊕ to open Channel Skip/Add menu:

1. Use the joystick to scroll up and down to select the position of the desired channel, then press ⊕.
2. Use the joystick to scroll up and down to select Skip/Add, then press ⊕.
3. Press the joystick left to return to the channel setup menu or press MENU to exit.

✍ Pressing CH+ or CH- will skip over channels that have been skipped. You can still use the ⓪-⑨ buttons to directly tune to skipped channels.

Channel Label

Label up to 40 channels with their call letters

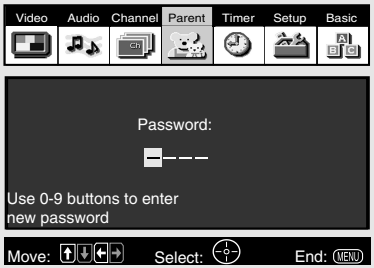
Press ⊕ to open the Channel Label menu:

1. Press ⊕, then use the joystick to scroll through the channels until you reach the desired channel number.
2. Press ⊕ to activate the channel.
3. Scroll down to highlight "Label", then press ⊕. Use the joystick to scroll up or down to display the first call letter or number of the caption. Press ⊕ to select. Repeat this process until you finish selecting all the call letters.
4. When finished, press ⊕ to activate.
5. Press the joystick left to return to the channel setup menu or press MENU to exit.

✍ You cannot use Favorite Channels, Cable, Channel Skip/Add, and Channel Label when Channel Fix is set.

Using the Parent Menu

To access the Parent menu, refer to the following steps:



The Parental Control feature is designed to help parents monitor what their children watch on television.

To use the Parent Menu

In Parent menu, you will be asked to set a 4-digit password for any further access into Parent menu.

1 Use the ⓪-⑨ buttons to enter a 4-digit password.

2 Confirm your password by entering it again.

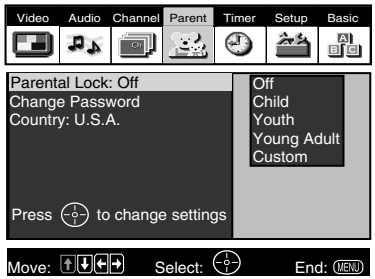
✍ Keep this manual in a safe place. You need your password for any future access to the Parental Control menu. If you forget your password, see page 54.

Once your password is set correctly, the Parent menu appears.

Parental Control

Setting the Rating

You can change the Rating by selecting one of the Parental Lock options.



1 Use the joystick to highlight Parental Lock, press ⊕.

If you are not familiar with Parental Guideline rating system, use one of the following preset categories to simplify the rating selection: Child, Youth, Young Adult.

2 Use the joystick to scroll up or down to select the desired rating and press ⊕.

Rating	TV will allow a maximum rating of
Child	TV-Y, TV-G, G (U.S.), G, C (Canada)
Youth	TV-PG, PG (U.S.), 8 ans + (Canada)
Young Adult	TV-14, PG-13 (U.S.), 14+ (Canada)
Custom	Select to set more restrictive ratings (see next section)
Off	No rating limit

Changing your Password

1 Use the joystick to scroll up or down to move the cursor to Change Password and press ⊕.

2 Follow steps 1 and 2 for “Using the Parent Menu” on page 39.

Select a Country

Select U.S.A. to use US ratings (see pages 42-43) or select Canada to use Canadian ratings (see page 44). If you select a Country (U.S.A. or Canada) that is not where you live, the rating you select will not be activated.

1 Use the joystick to highlight Parental Lock, press ⊕.

2 Use the joystick to scroll up or down to select the desired country and press ⊕.

Information for Parents

To view a program that exceeds the TV rating

❏ Press ENTER, then use the 0-9 buttons to enter your password.

✍ Entering your password to view a blocked program will temporarily turn Lock to Off. To reactivate your Lock settings, turn the TV off then back on; the TV will return to the settings that you have selected.

Using the Custom Menu

Follow the instructions on the screen to make your custom settings. Select the country desired for your TV's rating limit. See page 42 for U.S. models and page 44 for Canadian models for more information.

✍ Once you have blocked a rating or content, all higher ratings or content will be automatically blocked.

United States: Selecting Custom Rating Options

For the United States, the Custom Rating Menu includes the following options: Movie Rating, TV Rating and Unrated. (For Canada, see page page 44.)

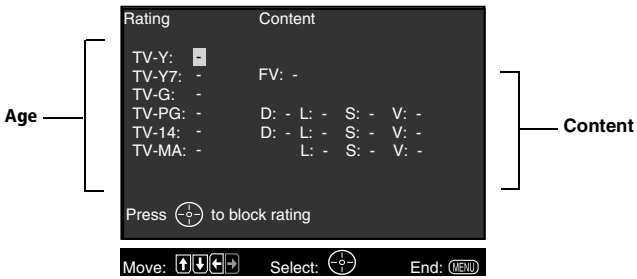
Movie Rating

This system defines the rating levels of movies shown in theaters and on prime cable channels.

Rating	Defined as
G	General audience
PG	Parental Guidance suggested
PG-13	Parents strongly cautioned
R	Restricted
NC-17	No one 17 and under admitted
X	Adult audience only

TV Rating

The TV rating is divided into two groups: age-based and content-based.



Age	Defined as
TV-Y	All children
TV-Y7	Directed to older children
TV-G	General audience
TV-PG	Parental Guidance suggested
TV-14	Parents strongly cautioned
TV-MA	Mature Audience only

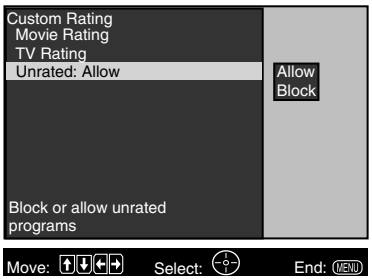
Content	Defined as
FV	Fantasy Violence
D	Suggestive dialogue
L	Strong language
S	Sexual situations
V	Violence

✍ The content ratings will increase depending on the level of the age-based rating. For example, a program with a TV-PG V (Violence) rating may contain moderate violence, while a TV-14 V (Violence) rating may contain intense violence.

Unrated

You have the option of blocking TV programs or movies that are not rated.

Allow	Allows all unrated programs
Block	Blocks all unrated programs



✍ If you choose to block unrated TV programs, please be aware that the following programs may be blocked: emergency broadcasts, political programs, sports, news, public service announcements, religious programs and weather.

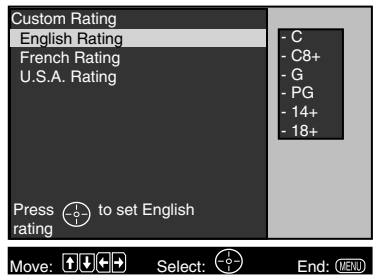
Canada: Selecting Custom Rating Options

For Canada, the Custom Rating Menu includes the following options: English Rating, French Rating and U.S.A. Rating.

English Rating

These ratings are for Canadian programs that are broadcast in English.

Rating	Defined as
C	Children
C8+	Children 8 years and older
G	General programming
PG	Parental Guidance
14+	Viewers 14 and older
18+	Adult programming



French Rating

These ratings are for Canadian programs that are broadcast in French.

Rating	Defined as
G	General
8 ans+	Not recommended for younger children
13 ans+	Not recommended for children under age 13
16 ans+	Not recommended for ages under 16
18 ans+	This program is restricted to adults

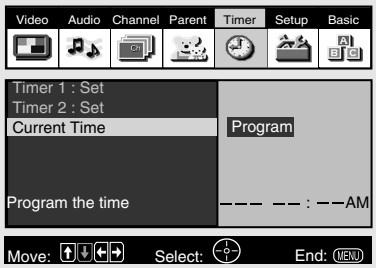
U.S.A. Rating

For programs from the United States, please see “TV Rating”on page 42.

Using the Timer Menu

To access the Timer menu, refer to the following steps:

Press joystick ⇩ to highlight an option then press ⊕.



Current Time Set your TV to the current day and time.

1. Use the joystick to scroll up or down to enter the correct day and time, then press ⊕.
2. Press ⊕ to return Timer menu or press MENU to exit the menu.

✍ You must set the Current Time before you can use Timer 1 or Timer 2.

Timer 1 and Timer 2 *Scheduled viewing*

Use the timers to program your TV to turn on and off by day, time, duration and channel. The timers duration is maximum of 6 hours. When the channel is fixed, it is not necessary to set the channel. Press ⊕ to program Timer 1 or Timer 2.

1. Use the joystick to highlight to select Timer 1 or Timer 2, then press ⊕.
2. Use the joystick to enter the desired day, start time, duration, and channel, then press ⊕. The timer status should be On when the Timer has been set, and the Timer light on the front panel of the TV should be turned on.
3. Press MENU to exit the menu.

✍ Select Off to turn off the Timer (your previous settings will be saved).

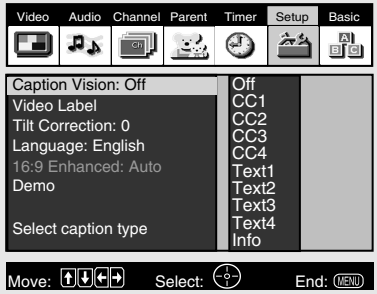
✍ When you perform Auto Program, Timer 1 and Timer 2 settings will be cleared. Also, in the event of any loss of power, Current Time, Timer 1 and Timer 2 settings will be cleared.

Using the Setup Menu

To access the Setup menu, refer to the following steps:

To Display **To Highlight** **To Select**

Press joystick ⇳ to highlight an option then press ⊕.



Caption Vision *Closed-Captioning*	Allows you to select from three closed caption modes (for programs that are broadcast with closed captioning). Use the joystick to scroll up or down to select from one of the following options, then press ⊕ to select it. **CC1, 2, 3, 4:** Displays printed dialogue and sound effects of a program. **Text1, 2, 3, 4:** Displays network/station information. **Info:** Displays the name of the current program and its remaining time, if available. **Off:** Caption Vision is not activated.
Video Label *Label connected equipment*	Allows you to identify the audio/video components connected to the TV: VCR, DVD, etc. When you press TV/VIDEO to switch inputs, the Video Label will display on-screen. Press ⊕ to open the Video Label menu: **1** Use the joystick to scroll up or down to select the video input you want to label and press ⊕. **2** Use the joystick to choose a label and press ⊕.

✍ If you select "Skip", your TV skips this connection when you press the TV/VIDEO button.

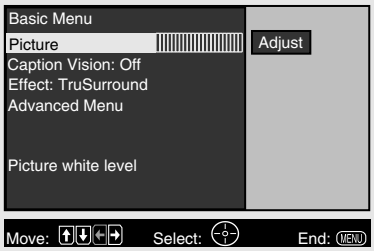
Tilt Correction	Use the joystick to scroll up or down to correct any tilt of the picture from –5 to +5, then press ⊕ to activate.
Language	Display all menus in the language of your choice. Use the joystick to scroll up or down to select from one of the following options: English, Español (Spanish) and Français (French). Then press ⊕.
16:9 Enhanced	Provides enhanced picture resolution for wide-screen sources such as DVD (only available when the TV is in Video mode).
Demo	Press ⊕ to run a demonstration of the on-screen menus.

✍ You can press any key to exit Demo mode.

Using the Basic Menu

To access the Basic menu, refer to the following steps:

Press joystick ⇩ to highlight an option then press ⊕.



Picture *Picture contrast*	Use joystick left to decrease picture contrast. Use joystick right to increase picture contrast.
Caption Vision *Closed-Captioning*	In the Basic menu, Caption Vision options are Off and the last captioning option selected (CC1-4, Text 1-4, or Info).
Effect	Use the joystick to scroll up or down to select one of the following options, then press ⊕ to select it. **Simulated:** Simulates theater quality sound for mono programs. **WOW:** Provides a dramatic presence with a full, deep bass sound. When WOW is enabled, BBE is directly activated to further enhance the audio performance. **TruSurround:** Produces a dynamic three dimensional sound for stereo audio signals. **Off:** Normal stereo or mono reception.
Advanced Menu	Press ⊕ to return to the advanced menus.

✍ If you use the MENU button to close the Basic menu, only the Basic menu appears when you press MENU again. To access the other menus, use the joystick to scroll down to highlight Advanced Menu, then press ⊕.

Other Information

Programming the Remote Control

You can use the supplied remote control to operate Sony or non-Sony video equipment.

1. Press CODE SET.
2. Press VCR/DVD or SAT/CABLE (FUNCTION).
3. Use the 0-9 buttons to key in the code number from the following chart.
4. Press ENTER.

VCR codes

Sony	301, 302, 303	JCPenney	309, 305, 304, 330, 314, 336, 337
Admiral (M.Ward)	327	JVC	314, 336, 337, 345, 346, 347
Aiwa	338, 344	Kenwood	314, 336, 332, 337
Audio Dynamic	314, 337	LXI (Sears)	332, 305, 330, 335, 338
Broksonic	319, 317	Magnavox	308, 309, 310
Canon	309, 308	Marantz	314, 336, 337
Citizen	332	Marta	332
Craig	302, 332	Memorex	309, 335
Criterion	315	Minolta	305, 304
Curtis Mathis	304, 338, 309	Mitsubishi/MGA	323, 324, 325, 326
Daewoo	341, 312, 309	Multitech	325, 338, 321
DBX	314, 336, 337	NEC	314, 336, 337
Dimensia	304	Olympic	309, 308
Emerson	319, 320, 316, 317, 318, 341	Optimus	327
Fisher	330, 335	Panasonic	308, 309, 306, 307
Funai	338	Pentax	305, 304
General Electric	329, 304, 309	Philco	308, 309
Go Video	322, 339, 340	Philips	308, 309, 310
Goldstar	332	Pioneer	308
Hitachi	306, 304, 305, 338	Quasar	308, 309, 306
Instant Replay	309, 308	RCA/PROSCAN	304, 305, 308, 309, 311, 312, 313, 310, 329
Realistic	309, 330, 328, 335, 324, 338	Symphonic	338
Samsung	322, 313, 321	Tashiro	332
Sansui	314	Tatung	314, 336, 337
Sanyo	330, 335	Teac	314, 336, 338, 337

VCR codes

Scott	312, 313, 321, 335, 323, 324, 325, 326	Technics	309, 308
Sharp	327, 328	Toshiba	312, 311
Shintom	315	Wards	327, 328, 335, 331, 332
Signature 2000 (M.Ward)	338, 327	Yamaha	314, 330, 336, 337
SV2000	338	Zenith	331
Sylvania	308, 309, 338, 310		

Cable box codes

Sony	230
Hamlin/Regal	222, 223, 224, 225, 226
Jerrold/G. I.	201, 202, 203, 204, 205, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	209, 210, 211
Tocom	216, 217
Zenith	212, 213

Satellite receiver codes

Sony	801
General Electric	802
Hitachi	805
Hughes	804
Panasonic	803
RCA/PROSCAN	802, 808
Toshiba	806, 807

Laser Disc Player codes

Sony	701
Panasonic	704, 710
Pioneer	702

DBS codes

DIRECTV	809
Echostar/Dish Network	810

DVD Player codes

Sony	751
JVC	756
Mitsubishi	761
Onkyo	762
Oritron	759
Panasonic	753
Philips/ Magnavox	757
Pioneer	752
RCA	755
Samsung/Hitachi	758
Toshiba	754
Zenith	760

✍ If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.

✍ Whenever you remove the batteries, the code numbers may revert to the factory setting and must be reset.

✍ In some rare cases, you may not be able to operate your equipment with the supplied remote control. In this case, use the equipment's supplied remote control.

Operating a VCR

Press	To
VCR/DVD	Power on the VCR
0-9	Select channels directly
CH+ CH-	Change channels
►	Play video tape
■	Stop
◄◄ or ►►	Search forward or backward
❚❚	Pause
● and ►	Record
TV/VCR	Change between VCR and TV inputs

Operating a DVD

Press	To
VCR/DVD	Power on the DVD
0-9	Select chapters directly
CH+ CH-	Search chapters forward or backward
►	Play DVD
■	Stop
❚❚	Pause
⇧, ⇩, ⇦, ⇨	Move the cursor in the menu
MENU	Display the DVD menu

Operating a Laser Disc

Press	To
VCR/DVD	Power on the laser disc
CH+ CH-	Search chapters forward or backward
►	Play disc
■	Stop
❚❚	Pause

Troubleshooting

If you are having a problem with your TV, try the suggestions below. If the problem persists, contact your nearest Sony Dealer.

Problem	Possible Solutions
Reset the TV to factory settings	❑ Turn on the TV. While holding down the RESET button on the remote control, press POWER button on the TV front panel. (The TV will turn itself off, then back on again.) Release the RESET button.
No picture, no sound	❑ Make sure the power cord is plugged in. ❑ If a red light is flashing on the front of your TV for more than a few minutes, disconnect and reconnect the power cord to restore the TV. If the problem continues, call your local service center. ❑ Check the TV/VIDEO setting: when watching TV, set to TV; when watching video equipment, set to VIDEO 1, 2, 3 or 4 (page 4, 6). ❑ Make sure the batteries have been inserted correctly into the remote control (page 2). ❑ Try another channel to rule out station trouble.
Poor or no picture, good sound	❑ Adjust the Picture setting in the Video menu (page 34). ❑ Adjust the Brightness setting in the Video menu (page 34). ❑ Check the antenna and/or cable connections (page 10).
Good picture, no sound	❑ Press MUTING so that Muting disappears from the screen (page 3 for remote Y181, page 5 for remote Y182). ❑ Check your Audio settings. Your TV may be set to Auto SAP in the MTS feature (page 36).
No color	❑ Adjust the Color setting in the Video menu (page 34).
Only snow appears on the screen	❑ Check the Cable setting in the Channel Setup menu (page 37). ❑ Check the antenna and/or cable connections (page 10). ❑ Make sure the channel selected is currently broadcasting.
Dotted lines or stripes	❑ Adjust the antenna. ❑ Move the TV away from other electronic equipment. Some electronic equipment creates electrical noise, which can interfere with TV reception.
Double images or ghosts	❑ Check your outdoor antenna or call your cable service.
Cannot receive higher number channels (UHF) when using an antenna	❑ Make sure Cable is set to Off in the Channel Setup menu (page 37). ❑ Perform Auto Program to add channels that are not presently in the memory (page 21).

Problem	Possible Solutions
Cable stations don't seem to work	❑ Make sure Cable is set to On in the Channel Setup menu (page 37). ❑ Perform Auto Program to add channels that are not presently in the memory (page 21).
Remote control does not operate	❑ Press TV (FUNCTION) when operating your TV. ❑ Check the orientation of the batteries. ❑ Batteries could be weak. Replace them (page 2). ❑ Move the TV three to four feet away from fluorescent lights.
Cannot change channels with the remote control	❑ Make sure you have not inadvertently switched your TV from the channel 3 or 4 setting if you are using another device to change channels. ❑ If you are using another device to control channels, be sure that you have pressed the FUNCTION button for that device. For example, if you're using your VCR to control channels, be sure to press the VCR/DVD FUNCTION buttons (page 3 for remote Y181, page 5 for remote Y182).
Cannot access other menus when using the Basic menu	❑ If you use the MENU button to close the Basic menu, only the Basic menu appears when you press MENU again. To access the other menus, select the Advanced Menu option (page 47).
The remote control doesn't work in PIP mode	❑ Press the TV FUNCTION button. You may have inadvertently pressed the VCR/DVD FUNCTION button, which changes the PIP buttons to VCR mode (page 24 for remote Y181, page 26 for remote Y182).
There is no window picture or it is just static	❑ Be sure your PIP window picture is set to a video source/channel that has a program airing. ❑ You may be tuned to a video input with nothing connected to it. Try cycling through your video inputs using the yellow PIP TV/VIDEO button with the red dot (page 26 for remote Y182, page 24 for remote Y181).
I get the same program in the window picture as in the main picture	❑ Both may be set to the same channel. Try changing channels in either the main picture or the window picture (page 26 for remote Y182, page 24 for remote Y181). ❑ Your TV may be set up to select all your channels through a cable box. The cable box will only unscramble one signal at a time, so you cannot use the PIP feature. If possible, run a direct cable to the VHF/UHF jack on your TV. This will only work if your cable system provides an unscrambled signal (page 12).

Problem	Possible Solutions
I cannot get anything but TV	❑ Be sure that you did not set the video label in the Setup menu (page 46) to skip your video inputs. If a video input is skipped, the problem will happen both in the main and PIP pictures.
The TV needs to be cleaned	❑ Clean the TV with a soft dry cloth. Never use strong solvents such as thinner or benzine, which might damage the finish of the cabinet.
Lost password for Parental Control	❑ In the password screen, enter the following master password: 4357. After using the master password, you must create a new password, it cannot be used to unlock currently blocked channels.
You lost your remote control	❑ You can use the front panel controls to access your menus, change channels, adjust the volume or change video inputs (page 2). Contact your nearest Sony Dealer to order a replacement, please call our Sony Direct Accessory and Part Center at 1-800-488-7669 (U.S. residents only).
There is a black box on the screen	❑ You have selected a text option in the Setup menu (page 46) and no text is available. To turn off this feature, select Off in the Caption Vision option. If you were trying to select closed captioning, select CC1 instead of Text 1-4.
TV doesn't turn on after disconnecting the TV and timer LED flashes	❑ Press the POWER button on your remote control or in the TV front panel, one more time.

If, after reading these Operating Instructions, you have additional questions related to the use of your Sony television, please call our Customer Information Services Center at 1-800-222-SONY (7669) (U.S. residents only) or (416) 499-SONY (7669) (Canadian residents only).

Specifications

For all models (except as noted)

Television system	American TV standard/NTSC (KV-27FV300, KV-32FV300, KV-36FV300)
Channel coverage	VHF: 2-13/UHF: 14-69/CATV: 1-125
Antenna	75-ohm external antenna terminal for VHF/UHF
Picture tube	FD Trinitron® tube
Power requirements	120V, 60 Hz (KV-27FV300, KV-32FV300, KV-36FV300)
Supplied Accessories	Size AA (R6) batteries (2) Remote Control RM-Y181 (1) (KV-27FV300) Remote Control RM-Y182 (1) (KV-32FV300 and KV-36FV300) Wireless Headphones (1) (KV-32FV300 and KV-36FV300)
Optional Accessories	TV Stand: SU-27HV1 for KV-27FV300, SU-32HV1 for KV-32 FV300 SU-36HV1 for KV-36FV300
KV-27FV300	
Screen size	Visible screen size: 679 mm (27 inches) measured diagonally Actual screen size: 736,6 mm (29 inches) measured diagonally
Inputs/outputs	Inputs: 3 video, 3 audio; 2 S VIDEO; 2 RF Inputs; 1 Y, PB,PR, 1 audio Outputs: 1 AUDIO OUT; 1 MONITOR OUT
Speaker output	7.5 W x 2, 15 W subwoofer
Power Consumption	220 W in use 1 W in standby
Dimensions (W/H/D)	784 x 601.5 x 520 mm ($30\frac{7}{8}$ x $23\frac{11}{16}$ x $20\frac{1}{2}$ inches)
Mass	48 kg (105 lbs. 13 oz.)
KV-32FV300	
Screen size	Visible screen size: 803 mm (32 inches) measured diagonally Actual screen size: 863,6 mm (34 inches) measured diagonally
Inputs/outputs	Inputs: 3 video, 3 audio; 2 S VIDEO; 2 RF Inputs; 1 Y, PB,PR, 1 audio Outputs: 1 AUDIO OUT; 1 MONITOR OUT
Speaker output	7.5 W x 2, 15 W subwoofer
Power Consumption	230 W in use 1 W in standby
Dimensions (W/H/D)	898 x 682 x 584 mm ($35\frac{3}{8}$ x $26\frac{7}{8}$ x 23 inches)
Mass	78 kg (171 lbs. 15oz.)
KV-36FV300	
Screen size	Visible screen size: 911 mm (36 inches) measured diagonally Actual screen size: 965.2 mm (38 inches) measured diagonally
Inputs/outputs	Inputs: 3 video, 3 audio; 2 S VIDEO; 2 RF Inputs; 1 Y, PB,PR, 1 audio Outputs: 1 AUDIO OUT; 1 MONITOR OUT
Speaker output	7.5 W x 2, 15 W subwoofer
Power Consumption	230 W in use 1 W in standby
Dimensions (W/H/D)	1020 x 760 x 640 mm ($40\frac{1}{4}$ x 30 x $25\frac{1}{4}$ inches)
Mass	102 kg (224 lbs. 14oz.)

Design and specifications are subject to change without notice.

Index

16:9 Enhanced **46**

A

Audio Out **36**
Auto Program **21**, **33**
Auto SAP **36**

B

Balance **35**
Bass **35**
Batteries
  Inserting in remote **2**
  Inserting in wireless headphones **29**
Brightness **34**

C

Cable **37**
Caption Vision **46**
Channel Fix **37**
Channel Label **38**
Channel Skip/Add **38**
ClearEdge VM **34**
Color **34**
Color Temperature **34**
Connections
  Cable and antenna **10**
  Cable Box and Cable **11**
  Connecting a Camcorder **19**
  Connecting a DVD Player **18**
  Connecting an Audio System **19**
  Connecting Two VCRs **15**
  TV and Cable Box **11**
  TV and Satellite Receiver **16**
  TV and VCR **13**
  TV, Satellite Receiver and VCR **17**
  TV, VCR and Cable Box **14**
Current Time **45**

D

Demo **46**
DISPLAY
  RM-Y-181 **3**
  RM-Y182 **5**
DynaBlack **34**

E

Effect
  Off **35**
  Simulated **35**
  TruSurround **35**
  WOW **35**

F

Favorite Channels **37**

H

Hue **34**

L

Language **46**

M

Menus
  Audio **35**
  Basic **47**
  Channel Setup **37**
  Parent **39**
  Setup **46**
  Timer **45**
  Video **34**
Mode
  Movie **34**
  Sports **34**
  Standard **34**
  Vivid **34**
MTS
  Auto SAP **36**
  Mono **36**
  Stereo **36**

P

Parental Control **40**
Picture **34**
Picture in Picture (PIP)
  RM-181 **24**
  RM-Y182 **26**

R

Ratings
  English Rating **44**
  French Rating **44**
  Movie Rating **42**
  TV Rating **42**
  U.S.A. Rating **42**
  Unrated **43**
Remote Control
  Programming **49**
  RM-Y181 **3**
  RM-Y182 **5**

S

Setting the Rating **40**

Sharpness **34**
SLEEP
RM-181 **5**
RM-Y182 **5**
Speaker **36**
Specifications **55**
Steady Sound **35**

T

Tilt Correction **46**
Timer 1 and Timer 2 **45**
Treble **35**
Troubleshooting **52**
TV Features **1**
TV Front Panel **2**
TV Rear Panel **8**

V

V-Chip (see Parental Control)
Video Label **46**

W

Wireless Headphones
Batteries **29**
PIP **31**

Manual de Instrucciones

Lea este manual antes de operar el producto

002 por Corporación Sony

ADVERTENCIA

Para evitar el riesgo de incendio o descarga eléctrica, no exponga el televisor a la lluvia o humedad.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
ATTENTION
RISQUE DE CHOC ELECTRIQUE,
NE PAS OUVRIR
PRECAUCION
RIESGO DE CHOQUE ELECTRICO
NO ABRIR
PRECAUCION: PARA REDUCIR EL RIESGO DE DESCARGA ELECTRICA NO RETIRE LA CUBIERTA NI LA PARTE POSTERIOR DE ESTE APARATO.
NO CONTIENE PIEZAS QUE EL USUARIO PUEDA REPARAR. PARA SERVICIO ACUDA A PERSONAL ESPECIALIZADO.

Este símbolo señala al usuario la presencia de voltaje peligroso sin aislamiento en el interior del aparato de tal intensidad que podría presentar riesgo de descarga eléctrica.

Este símbolo indica al usuario que el manual que acompaña a este aparato contiene instrucciones importantes referentes a su funcionamiento y mantenimiento.

Nota para el instalador de CATV

Esta nota pretende llamar la atención del instalador del sistema CATV en relación con el artículo 820-40 de la NEC que proporciona las pautas para una adecuada conexión a tierra y, en particular, especifica que el cable de conexión a tierra debe estar conectado al sistema de toma de tierra del edificio lo más cerca posible de la entrada del cable.

PRECAUCIONES DE SEGURIDAD

- ❏ Utilice el televisor con ca (corriente alterna) como se menciona a continuación para todos los países excepto en donde se indique:
  ca 120 V 60 Hz
  ca 220 V 50/60 Hz (Chile, Perú, Bolivia)
- ❏ Una terminal del enchufe es más ancha que la otra para garantizar la seguridad y solo se podrá introducir en la toma de corriente de una manera (sólo los modelos con ca 120 V). Si no puede insertar completamente el enchufe en la toma, póngase en contacto con su proveedor.
- ❏ Si se introduce algún objeto sólido o líquido en el televisor, desconéctelo y haga que sea revisado por personal especializado antes de volver a utilizarlo.

PRECAUCIÓN

PARA EVITAR DESCARGAS ELÉCTRICAS, INTRODUZCA EL ENCHUFE EN EL TOMACORRIENTE POR COMPLETO, CON EL CONTACTO ANCHO DEL ENCHUFE EN LA RANURA ANCHA DEL TOMACORRIENTE.

Al usar videojuegos, computadoras y productos similares con el televisor, mantenga los ajustes de brillo y contraste a un nivel moderado. Si una imagen inmóvil permanece en la pantalla durante un periodo prolongado con elevada intensidad de brillo o contraste, la imagen podría quedar grabada en la pantalla en forma permanente. Igualmente, ver continuamente el mismo canal de televisión podría dejar grabada en la pantalla el logotipo de la emisora. La garantía no cubre este tipo de anomalías, ya que se deben al mal uso del aparato.

Para reducir el riesgo de descarga eléctrica, no utilice el enchufe polarizado con un cable de extensión, un receptáculo ni otras tomas, a menos que las terminales estén bien insertadas y no queden expuestas.

Se advierte que cualquier cambio o modificación que no se apruebe de modo explícito en este manual podría anular su autorización para utilizar este equipo.

NOTIFICACIÓN

Este aparato ha sido debidamente probado, comprobándose que cumple con los límites impuestos a dispositivos digitales Clase B de acuerdo con la Sección 15 de las normas de la FCC. Estos límites se establecieron para ofrecer protección razonable contra interferencias perjudiciales en las instalaciones residenciales. Este aparato genera, usa y puede emitir energía radioeléctrica. De no instalarse y utilizarse de acuerdo con las instrucciones correspondientes, podría producir interferencias perjudiciales en las radiocomunicaciones. No obstante, no puede garantizarse que no se produzcan estas interferencias en una instalación determinada. Si este aparato llega a interferir en la recepción de radio o televisión, lo que podrá comprobarse encendiendo y apagando el aparato, se recomienda al usuario intentar corregir la interferencia mediante una o más de las siguientes medidas:

- ❏ Reoriente o cambie de lugar las antenas receptoras.
- ❏ Aumente la distancia que separa este aparato del receptor afectado.
- ❏ Conecte el aparato en una toma de corriente de un circuito distinto al que esté conectado el receptor que está afectado.
- ❏ Consulte con el distribuidor o solicite los servicios de un técnico capacitado en radio y televisión.

Cualquier cambio o modificación que no se detalla expresamente en el presente manual podría invalidar su autorización para emplear este aparato.

Protección del televisor

- ❏ Para evitar el sobrecalentamiento interno, no obstruya los orificios de ventilación.
- ❏ No instale el televisor en un lugar con temperatura elevada, humedad, exceso de polvo o donde puedan producirse vibraciones.

Nota sobre Caption Vision

Este receptor de televisión proporciona pantalla de televisión con visualización de subtítulos de acuerdo con el punto § 15.119 del reglamento de la FCC.

El uso del televisor con finalidades distintas a la visualización privada de emisiones de programas en UHF o VHF o transmisiones vía cable dirigidas al público en general puede requerir la autorización de la compañía de emisión por cable y/o del propietario del programa.

Información para el propietario

Los números de serie y modelo están situados en la portada de este manual y en la parte posterior del televisor.

Marcas comerciales y derechos de autor

ENERGY STAR® es una marca registrada.

En calidad de compañía asociada a ENERGY STAR®, Sony ha determinado que este producto o modelo de producto cumple con las directrices de uso eficiente de energía de ENERGY STAR®.

Con licencia de BBE Sound, Inc. bajo USP 4638258.4482866. BBE y el símbolo BBE son marcas comerciales de BBE Sound, Inc.

WOW y el símbolo (●)® son marcas comerciales de SRS Labs, Inc. La tecnología WOW se ha incorporado bajo licencia de SRS Labs, Inc.

Normas importantes sobre seguridad

Para su protección, lea detenidamente estas instrucciones y guarde este manual para futuras consultas.
Lea cuidadosamente todas las advertencias y precauciones y siga las instrucciones inscritas en el televisor o descritas en el manual de instrucciones o de reparación.

ADVERTENCIA

Para protegerse contra daños personales, siga las precauciones de seguridad básicas durante la instalación, la utilización y el mantenimiento del televisor indicadas a continuación.

USO

Fuentes de alimentación

Este televisor solamente deberá alimentarse con el tipo de fuente de alimentación indicado en la etiqueta de serie/modelo. Si no está seguro sobre el tipo de red eléctrica de su hogar, consulte a su proveedor o a la compañía de suministro eléctrico local. En caso de un televisor diseñado para alimentarse con baterías, consulte su manual de instrucciones.

Conexión a tierra o polarización

Este aparato cuenta con cable eléctrico con clavija polarizada (con una terminal más ancha que la otra), o con tres terminales (la tercera es para la conexión). Siga las instrucciones indicadas a continuación:

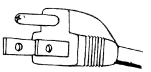
Para los equipos con un enchufe de cable de alimentación de ca polarizado

El enchufe se introduce en la toma de corriente en una única dirección. Se trata de una característica de seguridad. Si no puede insertar completamente el enchufe en la toma, intente girar el enchufe. Si sigue teniendo problemas para insertar el enchufe, póngase en contacto con su electricista para que le instale una toma adecuada. No ponga a prueba la finalidad de seguridad del enchufe polarizado forzándolo.

Advertencia alternativa

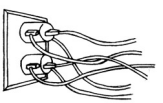
Para los equipos con un enchufe de ca con tres cables de conexión de tierra

Este enchufe únicamente se acoplará a una toma de corriente de conexión a tierra. Se trata de una característica de seguridad. Si no puede insertar el enchufe en la toma, póngase en contacto con su electricista para que le instale una toma adecuada. No ponga a prueba la seguridad del enchufe de conexión a tierra.



Sobrecarga

No sobrecargue las tomas de pared, los cables de extensión ni los receptáculos más allá de su capacidad, puesto que podría producirse un incendio o una descarga eléctrica. Apague siempre el aparato cuando no lo utilice. Si no va a utilizar el aparato durante un tiempo prolongado, desconéctelo de la toma de pared como precaución ante la posibilidad de que se produzca un mal funcionamiento interno que pueda provocar un incendio.



No desconecte la antena ni el cable de alimentación en caso de tormenta. Los relámpagos podrían descargar mientras sujeta el cable y provocarle lesiones graves. Apague el televisor y espere que el tiempo mejore.

Introducción de objetos y líquidos

No introduzca objetos de ningún tipo a través de las ranuras del gabinete, ya que podrían tocar puntos de tensión peligrosa o provocar cortocircuitos de piezas, lo que podría resultar en incendios o descargas eléctricas. No derrame nunca ningún tipo de líquido sobre el televisor.

Accesorios

No utilice ningún accesorio no recomendado por el fabricante, ya que podría ser peligroso.
No coloque ningún tipo de objetos, especialmente objetos pesados, encima del aparato. Podrían caerse del aparato y causar lesiones.

Limpieza

Antes de limpiar el televisor, desconéctelo de la alimentación. No utilice limpiadores líquidos ni aerosoles. Para limpiar el exterior del televisor, emplee un paño ligeramente humedecido en agua.

Si se produce un ruido continuo o intermitente en el interior del aparato de televisión mientras está en funcionamiento, desconecte el televisor y póngase en contacto con el proveedor o con el servicio de asistencia técnica. Es normal que algunos aparatos de televisión produzcan ocasionalmente este tipo de ruidos, especialmente cuando se conectan y desconectan.

Instalación

Para levantar o mover el aparato siempre se deberá hacer entre dos o más personas. El aparato es pesado y la superficie inferior es plana. Si intenta mover el aparato sin ayuda o lo manipula de forma insegura, puede producirse lesiones graves. Instale el aparato sobre una superficie plana y estable.

Agua y humedad

No utilice aparatos de alimentación eléctrica cerca del agua — por ejemplo, cerca de una bañera, un lavabo, un fregadero o una lavadora, en un sótano húmedo, ni cerca de una piscina, etc.

Colocación

No coloque el televisor sobre una mesita con ruedas, un pedestal, una mesa o un estante inestable. El televisor podría caer, causando daños serios a niños, adultos y al propio televisor. Utilice solamente la mesita de ruedas o soporte recomendado por el fabricante para el modelo específico. La combinación de un televisor y un mueble con ruedas deberá moverse con cuidado. Las paradas bruscas, la fuerza excesiva y las superficies desiguales pueden hacer que el aparato y el mueble volqueen.

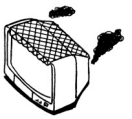
Desconecte todos los cables del aparato antes de intentar moverlo.

No permita que niños o animales se suban encima del aparato o lo empujen. El aparato podría caerse y causar lesiones graves.

Ventilación

Las ranuras y aberturas en la parte posterior o inferior del televisor son para permitir la ventilación necesaria. Para asegurar la operación fiable del televisor y protegerlo contra el sobrecalentamiento, estas ranuras y aberturas no deberán cubrirse ni bloquearse nunca.

- ❑ No tape las ranuras ni aberturas con paños ni otros materiales.



- ❑ No bloquee las ranuras ni aberturas colocando el televisor sobre una cama, sofá, alfombra u otras superficies similares.

❑ No coloque el televisor en un lugar cerrado, como en un librero o un mueble empotrado, a menos que esté adecuadamente ventilado.

❑ No coloque el televisor cerca, ni sobre un radiador o una salida de aire caliente, ni expuesto a la luz solar directa.

Protección del cable de alimentación

No permita que ningún objeto quede sobre el cable de alimentación, ni coloque el televisor donde el cable pueda quedar sometido a desgaste o presión.

Conexión a tierra o polarización

Este aparato puede estar equipado con un enchufe de línea de corriente alterna polarizado (con una terminal más ancha que la otra). El enchufe sólo se puede introducir en la toma de corriente en una dirección. Se trata de una característica de seguridad. Si no puede insertar completamente el enchufe en la toma, intente girarlo. Si sigue teniendo problemas para introducir el enchufe, póngase en contacto con su electricista para que sustituya la toma obsoleta. No ponga a prueba la seguridad del enchufe polarizado.

Antenas

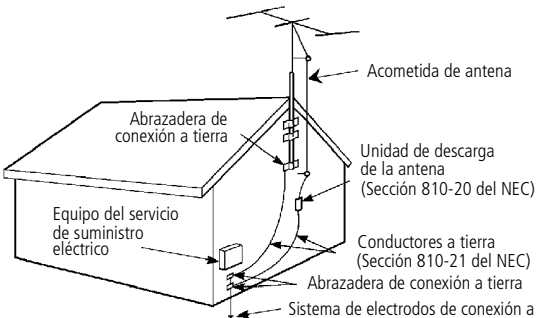
Conexión a tierra de una antena exterior

Para instalar una antena exterior, siga los procedimientos que se indican a continuación. Los sistemas de antenas exteriores no deben situarse cerca de líneas eléctricas o circuitos de alimentación o luz eléctrica, o bien donde pueda entrar en contacto con dichas líneas eléctricas o circuitos.

CUANDO INSTALE UN SISTEMA DE ANTENA EXTERIOR, EXTREME LAS PRECAUCIONES Y MANTÉNGALO ALEJADO DE DICHAS LINEAS ELECTRICAS O CIRCUITOS, DADO QUE EL CONTACTO PUEDE RESULTAR FATAL.

Asegúrese de que el sistema de antena tiene conexión a tierra para proporcionar protección contra los incrementos de voltaje y el aumento de las cargas estáticas. El apartado 810 del Código Eléctrico Nacional (NEC) en EE.UU. y el apartado 54 del Código eléctrico de Canadá proporcionan información relativa a la conexión a tierra adecuada del mástil y de la estructura de soporte, la conexión a tierra del cable de conexión a la unidad de descarga de la antena, el tamaño de los conductores de la conexión a tierra, la ubicación de la unidad de descarga de la antena, la conexión de los electrodos de conexión a tierra y los requisitos de los electrodos de conexión a tierra.

Conexión a tierra de la antena de acuerdo con el Código Eléctrico Nacional, ANSI/NFPA 70


Acometida de antena
Abrazadera de conexión a tierra
Unidad de descarga de la antena (Sección 810-20 del NEC)
Equipo del servicio de suministro eléctrico
Conductores a tierra (Sección 810-21 del NEC)
Abrazadera de conexión a tierra
Sistema de electrodos de conexión a tierra del servicio de suministro eléctrico (Artículo 250, Parte H del NEC)
NEC: Codigo Eléctrico Nacional

Rayos

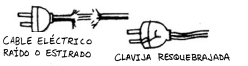
Para mayor protección del receptor de televisión durante una tormenta con rayos o cuando no se utiliza durante largos periodos de tiempo, desconéctelo de la toma de pared y desconecte la antena. Con ello evitará que los rayos y los incrementos de voltaje dañen el receptor.

Reparación

Daños que requieren reparación

Desconecte el aparato de la toma de pared y haga que sea revisado por personal calificado cuando se produzcan las siguientes condiciones:

❑ Si el cable de alimentación o el enchufe están dañados o deshilachados.



❑ Si se ha vertido líquido en el interior del aparato o si se han caído objetos en el interior del producto.

❑ Si el aparato se ha expuesto a lluvia o agua.

❑ Si el aparato se ha caído y ha sufrido golpes excesivos o si se ha dañado la unidad.

❑ Si el aparato no funciona con normalidad al seguir las instrucciones del manual. Ajuste solamente los controles que se especifican en el manual de instrucciones. El ajuste inadecuado de otros controles puede provocar daños y a menudo requerirá mucho trabajo por parte de un técnico calificado para restablecer el funcionamiento normal del aparato.

❑ Si el aparato muestra un cambio de rendimiento significativo, debe repararse.

Asistencia técnica

No intente reparar por sí mismo el aparato ya que al abrir el gabinete se vería expuesto a tensiones peligrosas y otros riesgos. Solicite los servicios de personal de reparación calificado.

Piezas de reemplazo

Si necesita piezas de reemplazo, asegúrese de que el técnico certifique por escrito que ha utilizado piezas de reemplazo especificadas por el fabricante con las mismas características que las piezas originales. El uso de piezas no autorizadas puede provocar incendios, descargas eléctricas y otros peligros.

Comprobación de seguridad

Después de realizar cualquier reparación del aparato, solicite al técnico de la reparación que realice comprobaciones rutinarias de seguridad (como especifica el fabricante) para determinar si el aparato se encuentra en condiciones seguras de funcionamiento y certificarlo. Cuando el aparato llega al final de su vida útil, debe desecharse adecuadamente para evitar una implosión del tubo de la imagen. Consulte a un técnico de reparación calificado para depositar el aparato.

Contenido

Introducción

Características del televisor FD Trinitron WEGA® 1
Acerca de este manual 2
Baterías para el control remoto 2
Controles del menú del panel frontal 2
Uso del control remoto 3

Conexión del televisor

Panel posterior del televisor 5
Conexiones básicas 7
Conexiones del decodificador 8
Conexión de equipo adicional 10

Uso de las funciones básicas

Ajuste automático del televisor 17
Acceso rápido a los menús 18
Uso de Imagen dentro de una imagen (PIP) 20
Ajustes que pueden afectar el uso de Imagen dentro de una Imagen (PIP) 22

Uso de los menús

Para accesar a un menú 23
Uso del menú Video 24
Uso del menú Audio 25
Uso del menú Canal 27
Uso del menú Bloqueo de Canal 29
Uso del menú Timer (Reloj) 30
Uso del menú Ajustes 31
Uso del menú Básico 32

Información adicional

Programación del control remoto 33
Solución de problemas 36
Especificaciones 38

Índice alfabético 39

Introducción

Gracias por la compra del televisor FD Trinitron WEGA® de Sony. Antes de utilizar este manual, compruebe el número de modelo situado en la parte posterior del televisor o en la portada de este manual.

Características del televisor FD Trinitron WEGA®

Algunas de las características que disfrutará son:

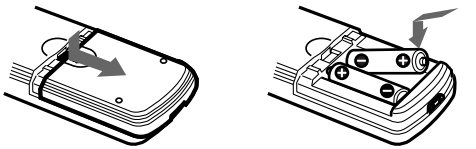
- **FD Trinitron CRT Plano** — Su cinescopio tecnológicamente avanzado ofrece una imagen con precisión absoluta y notable detalle.
- **Entradas Y, P_B, P_R** — Conexión de entrada de video para una calidad de imagen superior.
- **WOW** — Una nueva función de audio que proporciona un excelente sonido con bajos profundos e intensos. Al activar WOW, BBE se activa directamente para mejorar aún más el programa de audio.
- **TruSurround** — Produce un sonido tridimensional dinámico en las señales audio estéreo.
- **Función de bloqueo de canales** — Una herramienta para ayudar a que los padres controlen lo que ven sus hijos bloqueando algunos canales.
- **ClearEdge VM**—Aumenta la definición de la imagen al proporcionar un contorno limpio y nítido a los objetos.
- **DynaBlack** — Mejora el contraste y hace mas nítidos los detalles de las imágenes.
- **Imagen dentro de una Imagen (PIP)**— Le permite ver dos canales al mismo tiempo.
- **Canales Favoritos** — Acceso instantáneo a sus canales favoritos con sólo presionar un botón.
- **Info** — Una función nueva y práctica que muestra el nombre y el tiempo restante del programa en curso, si la información está disponible.
- **Control Remoto Universal** — Puede programar el control remoto para operar con él su decodificador de cable, videograbadora, receptor de satélite digital o reproductor DVD.
- **Energy Star®** — Cumple con las directivas Energy Star de eficiencia en el uso de la energía eléctrica.
- **Controles del Panel Frontal** — Permiten el acceso a los menús de pantalla sin el control remoto.
- **Entradas de A/V frontales** — Conexión rápida para videojuegos, cámaras de video y equipos estéreo/mono.
- **Silenciamiento automático** — Función diseñada para silenciar automáticamente el televisor cuando no se reciben señales.

Acerca de este manual

Este manual proporciona instrucciones para ayudarle a disfrutar de su nuevo televisor. Muestra como conectarlo a la antena o el cable, al decodificador de cable, a la videograbadora, al reproductor de DVD, al receptor de satélite, al sistema estéreo o a la cámara de video. Una vez conectado, siga las instrucciones y utilice el control remoto para acceder a los menús de pantalla.

Baterías para el control remoto

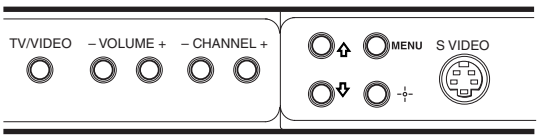
Introduzca dos baterías de tipo AA (R6) (incluidas) en el control remoto como se muestra en la siguiente ilustración.



✍ En condiciones de uso normales, las baterías tienen una duración máxima de seis meses. Si el control remoto no funciona correctamente, es posible que las baterías estén gastadas.

✍ Si no va a utilizar el control remoto durante largo tiempo, quite las baterías para evitar posibles daños por fugas.

Controles del menú del panel frontal



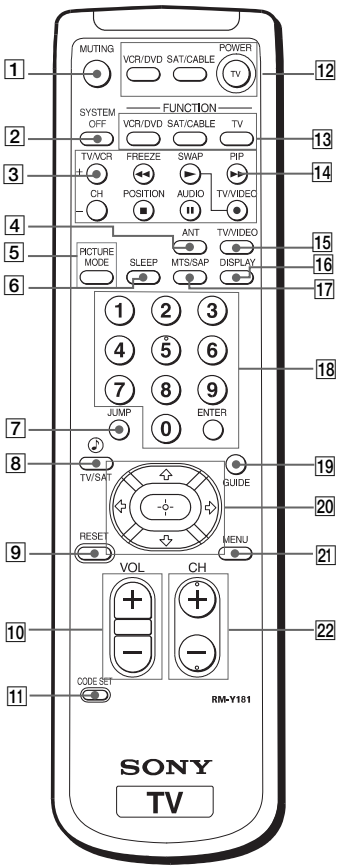
Los controles del panel de audio y video frontal le permiten accesar al menú sin utilizar el control remoto.

- Presione MENU para que aparezca el menú en pantalla.
- Use los botones ⊕ y ⊖ del panel frontal de audio y video en lugar del control remoto.
- Utilice el botón ⊹ del panel frontal de audio y video para navegar ⇦ o ⇨ y después seleccione un elemento.

✍ Para navegar por los menús con el control remoto, consulte "Uso de los menús" en la página 23.

Uso del control remoto

Esta sección le muestra cómo utilizar todos los botones del control remoto.



	Botón	Descripción
1	**MUTING**	Presione para desactivar el sonido. Presiónelo de nuevo o presione VOL + para restaurar el sonido.
2	**SYSTEM OFF**	Presiónelo para apagar todos los aparatos Sony al mismo tiempo. Es posible que no funcione con aparatos antiguos.
3	**TV/VCR**	Presiónelo cuando haya terminado de utilizar la videograbadora y desee pasar a la entrada de ANT/CABLE. La videograbadora permanecerá encendida.
4	**ANT (antena)**	Presiónelo para cambiar la entrada de VHF/UHF a AUX.
5	**PICTURE MODE**	Presione repetidamente para recorrer las modalidades de video disponibles: Vívida, Estándar, Película y Deportiva. Esta función se encuentra también en el Menú de Video. Consulte "Uso del Menú de Video" en la página 24 para más detalles.
6	**SLEEP**	Presione repetidamente hasta que aparezca el número de minutos (15, 30, 45, 60 o 90) que quiera tener encendido el televisor antes de apagarse automáticamente. Para cancelar este modo, presione el botón hasta que aparezca SLEEP OFF. Estando en modo de Reposo, presiónelo una vez para ver el tiempo restante.
7	**JUMP**	Presione para alternar entre dos canales. El televisor cambia del canal actual al último canal seleccionado.
8	**TV/SAT**	Presione para alternar entre las entradas TV y SAT (satélite) cuando esté en modo SAT FUNCTION.
	♪	Presione para accessar directamente a los ajustes de Efecto de Audio (Simulado, WOW, TruSurround, No), cuando el control remoto esté en modo TV FUNCTION. Consulte "Uso del Menú Audio" en la página 25 para más detalles.
9	**RESET**	Presiónelo para volver a la configuración de fábrica cuando esté en un menú de pantalla.
10	**VOL (volumen)**	Presiónelo para ajustar el volumen.
11	**CODE SET**	Programe con él su control remoto para que pueda operar el equipo de video conectado al televisor (consulte "Programación del control remoto" en la página 33).

	Botón	Descripción
12	**Botones POWER**	Presiónelos para encender y apagar el equipo conectado.
13	**Botones FUNCTION**	Presiónelos para controlar el equipo conectado con su control remoto.
14	**PIP (imagen dentro de una imagen)**	Presiónelo para operar la función PIP. Consulte "Uso de Imagen dentro de una imagen (PIP)" en la página 20.
	VCR (Funcionamiento)	Presione para operar su videograbadora. La videograbadora deberá estar programada en el control remoto, (consulte "Programación del control remoto" en la página 33).
	◄◄	Rebobinar.
	REC	Presione el botón REC y el botón en blanco (arriba a la izquierda) al mismo tiempo para grabar programas con su videocasetera (el control remoto debe haberse programado para poder utilizar esta opción).
	►►	Avance rápido.
	►	Reproducir.
	■	Parar.
	❚❚	Pausa. Presiónelo de nuevo para reanudar la reproducción normal.
15	**TV/VIDEO**	Presiónelo para alternar entre las entradas de video disponibles.
16	**DISPLAY**	Presione una vez para ver la hora actual, el nombre del canal (si se ha definido) y el número del canal. Presiónelo nuevamente para desactivar la función. Consulte "Uso del Menú Timer (Reloj)" en la página 30 para conocer más detalles.
17	**MTS/SAP**	Presiónelo para recorrer las opciones de Sonido Multicanal del televisor (MTS): Estéreo, Mono y Auto SAP (Segundo Programa de Audio).
18	**0–9 y ENTER**	Presiónelo para cambiar los canales directamente y para introducir valores numéricos en la pantalla.
19	**GUIDE**	Presiónelo para mostrar la guía de programas de su antena de satélite.
20		Presione los botones con flechas para mover el cursor en los menús en pantalla. Presione el botón central para seleccionar una opción o accesar a ella.
21	**MENU**	Presione este botón para ver el menú en pantalla. Presiónelo de nuevo para salir del menú en cualquier momento.
22	**CH (canal)**	Presione para cambiar de canal.

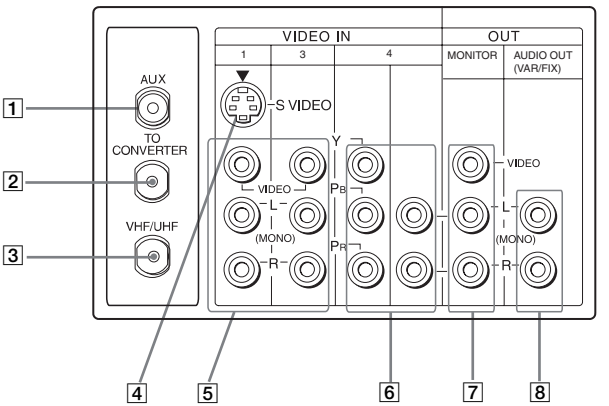
✍ Para obtener información sobre los botones de operación de Imagen dentro de una imagen (PIP), consulte la página 21.

✍ Si pierde su control remoto, consulte la página 37.

Conexión del televisor

Lea esta sección antes de instalar el televisor por primera vez. Esta sección hace referencia a las conexiones básicas, así como a cualquier otro equipo opcional que conecte.

Panel posterior del televisor



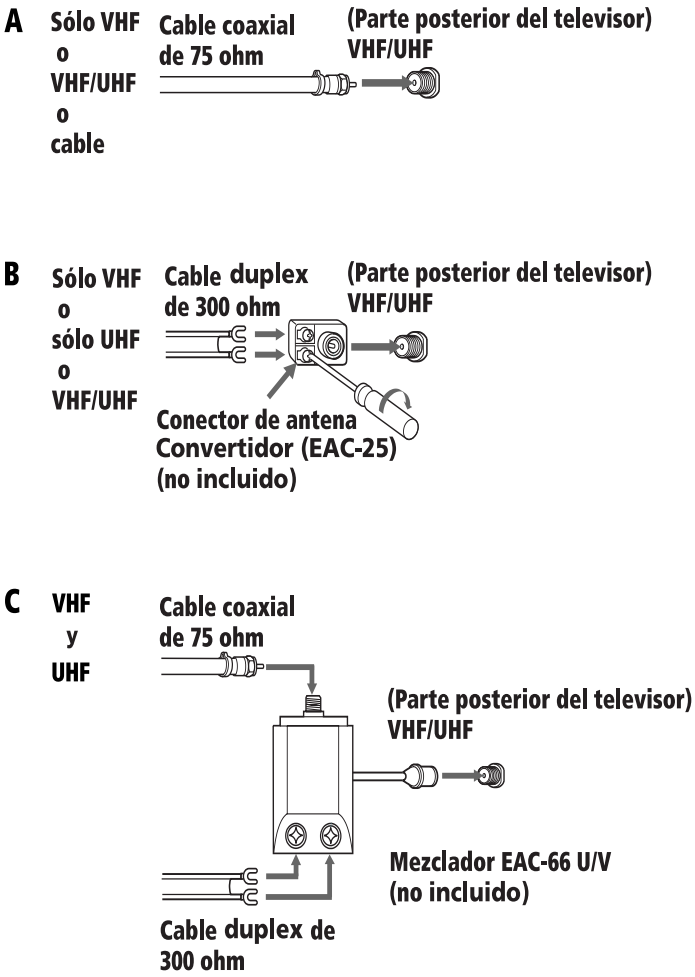
Toma	Descripción
1 **AUX**	Le permite ver los canales locales y de cable si su servicio de cable no ofrece los primeros. Usted puede cambiar entre los canales locales y los del cable si oprime ANT en el control remoto. Los aparatos conectados a la entrada AUX no podrán verse en PIP.
2 **TO CONVERTER**	Ésta es una salida de VHF/UHF que le permite programar su televisor para cambiar entre canales codificados (mediante decodificador) y los canales normales de televisión por cable. Use esta salida en lugar de un conector en Y para obtener una mejor calidad de imagen cuando necesite cambiar entre canales de cable codificados y decodificados.
3 **VHF/UHF**	Establece una conexión con el cable o la antena de VHF/UHF.
4 **S VIDEO**	Establece una conexión con la toma S VIDEO OUT (salida de S VIDEO) de la videograbadora o de otro equipo de video con S VIDEO. S VIDEO proporciona una mejor calidad de imagen que las tomas VHF/UHF o la toma de entrada de video. Como S VIDEO no proporciona sonido, debe conectar los cables de audio de todas formas.

Toma	Descripción
5 **VIDEO/AUDIO (L/R)**	Establece una conexión con las tomas de salida de AUDIO y VIDEO de la videograbadora o de otro equipo de video. En el panel frontal del televisor existe una tercera toma de entrada de video (VIDEO 2). Estas tomas de entrada de AUDIO/VIDEO proporcionan una mejor calidad de imagen que la toma VHF/UHF.
6 **Y, P_B, P_R/ L, R**	Se conecta a las tomas de entrada de video para componentes Y, P_B, P_R y las tomas AUDIO L y R del reproductor de DVD o la caja decodificadora digital.
7 **MONITOR OUT**	Le permite grabar en la videograbadora el programa que está viendo. Cuando hay dos videograbadoras conectadas (consulte "Conexión de dos videograbadoras para grabar cintas" en la página 12), puede utilizar el televisor como monitor para editar de cinta a cinta.
8 **AUDIO OUT (VAR/FIX) L(MONO)/R**	Se conecta a las tomas de entrada AUDIO L y R del equipo de audio o video. Puede escuchar el sonido del televisor con el equipo de sonido.

Conexiones básicas

Televisor con antena interior o exterior o cable CATV

Dependiendo del cable que tenga, elija una de las siguientes conexiones:

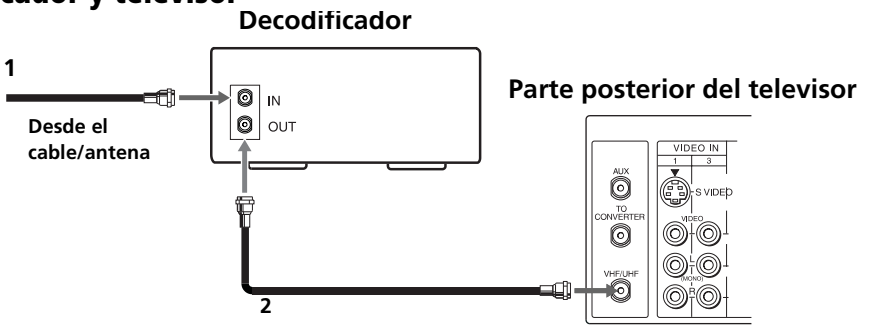


✍ Si conecta el televisor a una antena interior o exterior, es posible que deba ajustar la orientación de la antena para obtener una mejor recepción.

Conexiones del decodificador

Algunos sistemas de televisión por cable usan señales codificadas que requieren de un decodificador para poder ver todos los canales. Si está suscrito a ese tipo de servicio de cable, utilice esta conexión. Las señales codificadas que lleguen al televisor desde el decodificador no pueden verse en PIP. Si algunos de sus canales están codificados, tome en consideración la posibilidad de utilizar la conexión de Decodificador y cable.

Decodificador y televisor



1 Conecte el cable coaxial de su servicio de cable a la toma IN del decodificador.

2 Conecte un cable coaxial (no incluido) desde la toma OUT del decodificador a la toma VHF/UHF del televisor.

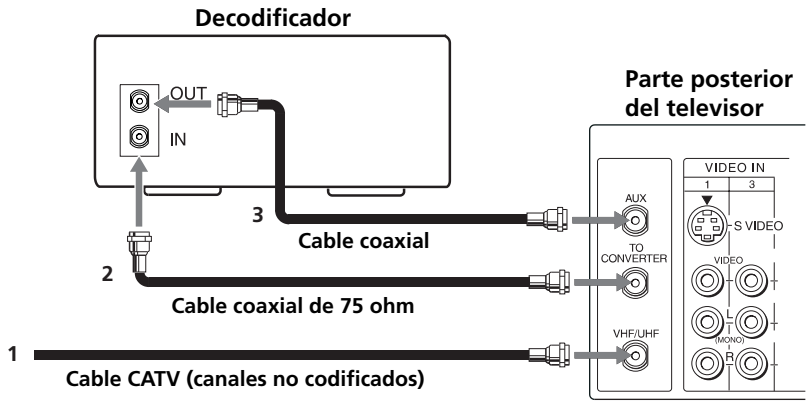
✍ Si desea controlar toda la selección de canales con el decodificador, es aconsejable utilizar la función Fijar Canal ajustando el televisor en el canal 3 o el 4 (consulte la página 27).

Decodificador y cable

Utilice esta conexión si está suscrito a un sistema de cable que codifique algunos canales (canales de pago) pero no todos. Esta configuración le permite utilizar el control remoto para:

- ❏ cambiar de canal por medio del decodificador cuando esté recibiendo una señal codificada
- ❏ cambiar de canal por medio de su televisor

Esta conexión también le permite utilizar la función PIP cuando esté viendo canales no codificados que lleguen directamente a su televisor por el cable. Las señales codificadas que lleguen desde el decodificador no pueden verse en PIP. Para obtener más información sobre la función PIP, consulte la página 20.



1 Conecte el cable coaxial del servicio de cables a la toma VHF/UHF del televisor.

2 Conecte la toma IN del decodificador a la toma TO CONVERTER del televisor mediante un cable coaxial (no incluido).

3 Conecte la toma OUT del decodificador a la toma AUX del televisor mediante un cable coaxial (no incluido).

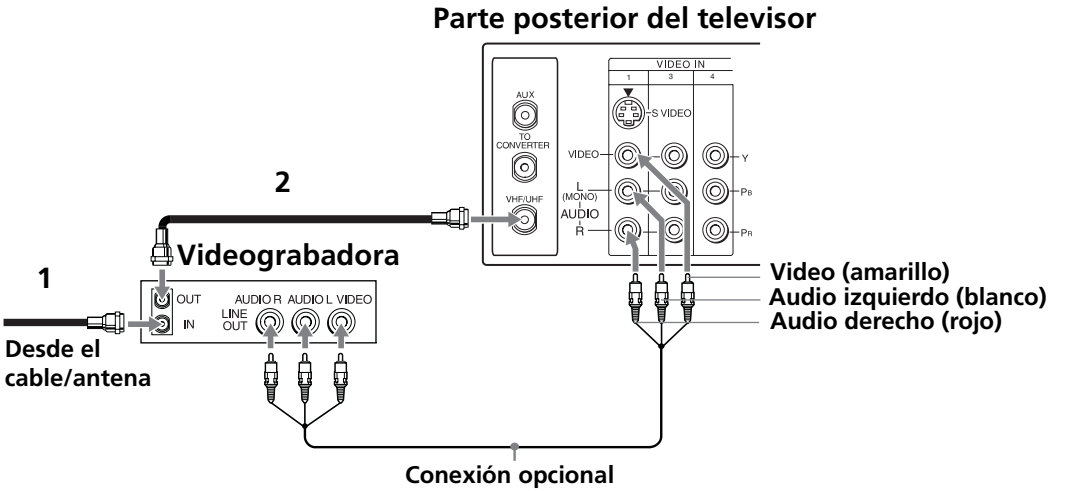
✍ Presione el botón ANT del control remoto para alternar las entradas de decodificador y de cable directo.

✍ Su control remoto Sony puede programarse para que opere el decodificador (consulte la página 34).

✍ Si desea utilizar el decodificador para cambiar de canal, ponga el televisor en el canal 3 o 4. Ajuste la función Fijar Canal para asegurarse de que no cambia accidentalmente los canales por medio del televisor (consulte la página 27).

Conexión de equipo adicional

Conexión de un televisor y una videograbadora



✍ Para ver programas de video desde la videograbadora, sintonice el televisor en los canales 3 ó 4 (como se indica en la parte posterior de la videograbadora).

1 Conecte el cable coaxial de la antena del televisor o del servicio de cable a la toma IN de la videograbadora.

2 Conecte el cable coaxial (no incluido) de la toma OUT de la videograbadora a la toma VHF/UHF del televisor.

Conexión opcional

Si la videograbadora dispone de salidas de video, puede obtener una mejor calidad de imagen conectando los cables de audio y video (no incluidos) desde la salida AUDIO y VIDEO OUT de la videograbadora a la toma AUDIO/VIDEO IN del televisor.

✍ Puede utilizar el TV/VIDEO botón para cambiar entre las entradas VHF/UHF y VIDEO.

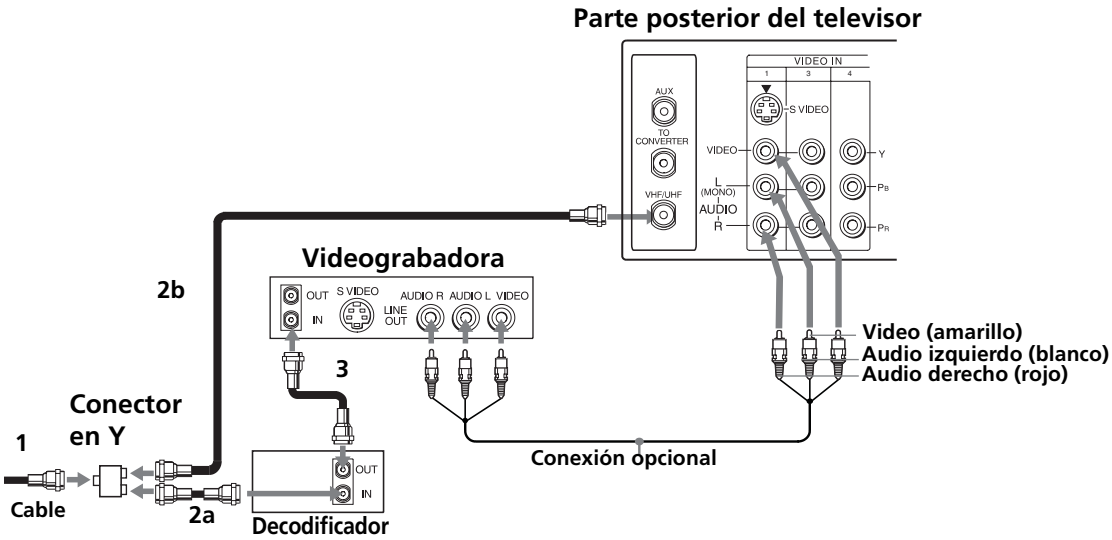
✍ Para obtener una mejor calidad de imagen, utilice S VIDEO en lugar del cable amarillo de audio y video. Como S VIDEO no proporciona sonido, debe conectar los cables de audio de todas formas.

Conexión de un televisor, una videograbadora y un decodificador

Utilice esta conexión si está suscrito a un sistema de cable que codifique algunos canales (canales de pago) pero no todos. Esta configuración le permite utilizar el control remoto para:

- ❏ cambiar de canal con el decodificador o la videograbadora mientras recibe una señal codificada
- ❏ cambiar de canal con el televisor

Esta conexión también le permite utilizar la función PIP mientras ve canales no codificados que lleguen directamente a su televisor por el cable. Las señales codificadas que lleguen desde el decodificador no pueden verse en PIP. Para obtener más información sobre la función PIP, consulte la página 20.



1 Conecte la toma unida de entrada del conector en Y a su conexión de cable de entrada.

2 Con un cable coaxial (no incluido), conecte las dos tomas de salida del conector en Y a:

a) la toma IN del decodificador y

b) la toma VHF/UHF del televisor.

3 Conecte la toma OUT del decodificador a la toma IN de la videograbadora con un cable coaxial (no incluido).

✍ Si desea controlar toda la selección de canales a través del decodificador, es aconsejable utilizar la función Fijar Canal ajustando el televisor en el canal 3 o 4 (consulte la página 27).

Conexión opcional

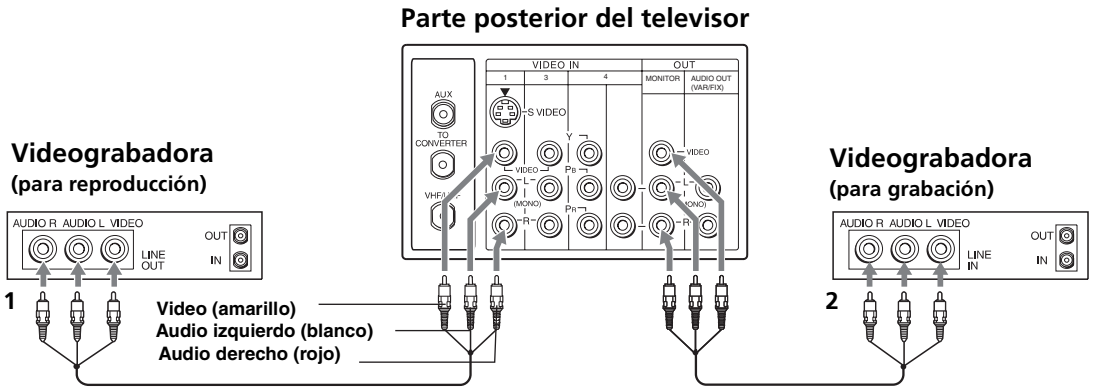
Si la videograbadora tiene salidas de video, podrá obtener una mejor calidad de imagen si conecta los cables de audio y video (no incluidos) desde la salida AUDIO y VIDEO OUT de la videograbadora a la toma de entrada AUDIO/VIDEO IN del televisor.

✍ Para obtener una mejor calidad de imagen, utilice S VIDEO en lugar del cable amarillo de audio y video. Como S VIDEO no proporciona sonido, debe conectar los cables de audio de todas formas.

✍ Puede utilizar el TV/VIDEO botón para cambiar entre las entradas VHF/UHF y VIDEO.

Conexión de dos videograbadoras para grabar cintas

Puede conectar dos videograbadora para editar cintas de video. También puede conectarlas a su televisor para ver el programa que esté grabando.

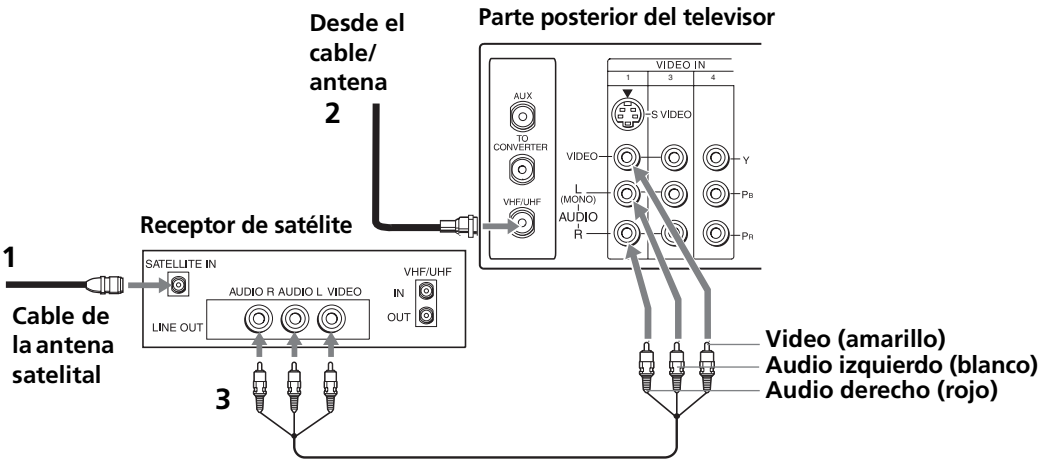


1 Use cables de audio y video (no incluidos) para conectar las tomas de AUDIO y VIDEO OUT de la primera videograbadora a las de AUDIO y VIDEO IN del televisor.

2 Use cables de audio y video (no incluidos) para conectar las tomas de AUDIO y VIDEO IN de la segunda videograbadora a las de MONITOR AUDIO y VIDEO OUT del televisor.

✍ Para editar cintas, presione TV/VIDEO para ajustar el televisor en la entrada de video que desee reproducir.

Conexión de un televisor y un receptor de satélite



1 Conecte el cable de la antena por satélite a la entrada SATELLITE IN del receptor de satélite.

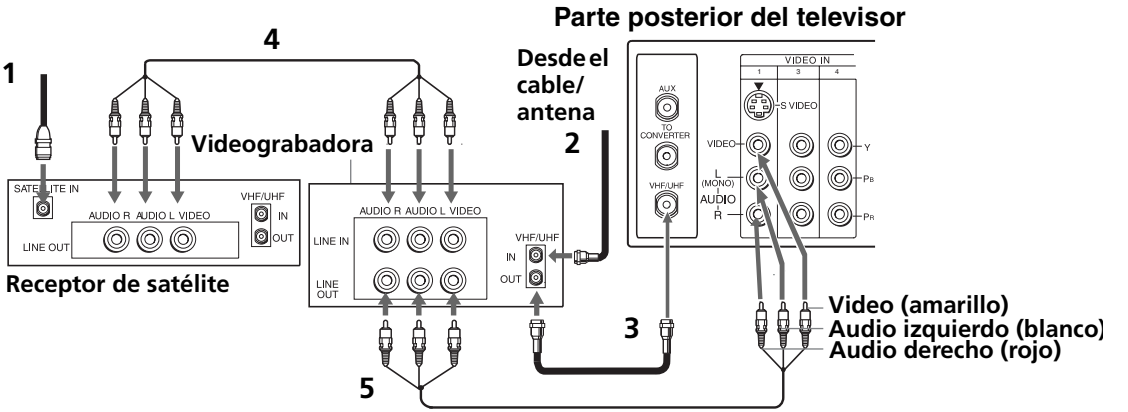
2 Conecte el cable coaxial del servicio de cable o antena a la toma VHF/UHF del televisor.

3 Use cables de audio y video (no incluidos) para conectar las tomas AUDIO y VIDEO OUT del receptor de satélite a las de AUDIO y VIDEO IN del televisor.

✍ Puede utilizar el TV/VIDEO botón para cambiar entre las entradas VHF/UHF y VIDEO.

✍ Para obtener una mejor calidad de imagen, utilice S VIDEO en lugar del cable amarillo de audio y video. Como S VIDEO no proporciona sonido, debe conectar los cables de audio de todas formas.

Conexión de un televisor, un receptor de satélite y una videograbadora



1 Conecte el cable de la antena por satélite a la entrada SATELLITE IN del receptor de satélite.

2 Conecte el cable coaxial del servicio de cables o antena a la toma IN de la videograbadora.

3 Conecte la toma OUT de la videograbadora a la toma VHF/UHF del televisor con un cable coaxial (no incluido).

4 Use cables de audio y video (no incluidos) para conectar las tomas de AUDIO y VIDEO OUT del receptor de satélite a las de AUDIO y VIDEO IN de la videograbadora.

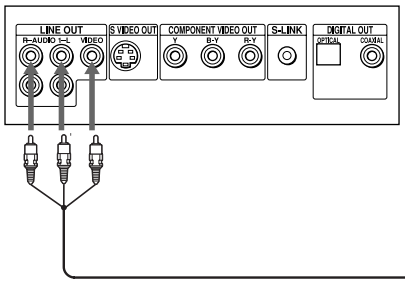
5 Conecte las tomas AUDIO y VIDEO OUT de la videograbadora a las tomas AUDIO y VIDEO IN del televisor con cables de audio y video (no incluidos).

✍ Para ver las imágenes desde el receptor del satélite o la videograbadora, seleccione la entrada de video a la que esté conectado el receptor de satélite o la videograbadora presionando TV/VIDEO en el control remoto.

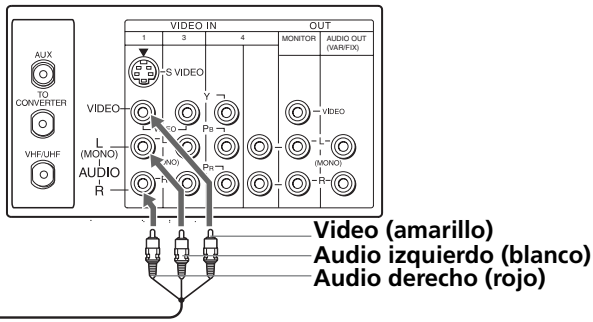
Conexión de un reproductor de DVD

Use cables de audio y video (no incluidos) para conectar las tomas de AUDIO y VIDEO OUT del reproductor de DVD a las de VIDEO IN del televisor.

Parte posterior del reproductor de DVD



Parte posterior del televisor



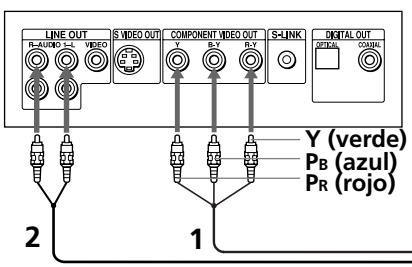
Video (amarillo)
Audio izquierdo (blanco)
Audio derecho (rojo)

✍ Para obtener una mejor calidad de imagen, utilice S VIDEO en lugar del cable amarillo de audio y video. Como S VIDEO no proporciona sonido, debe conectar los cables de audio de todas formas.

Conexión opcional

Si el reproductor de DVD tiene salidas de video para componentes (Y, P_B, P_R), puede optimizar la calidad de imagen con cables de video para componentes.

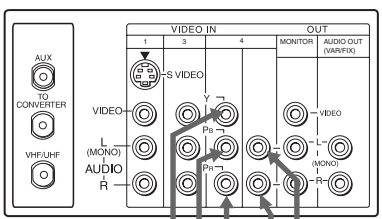
Parte posterior del reproductor de DVD



Y (verde)
P_B (azul)
P_R (rojo)

2 **1**

Parte posterior del televisor



Audio izquierdo (blanco)
Audio derecho (rojo)

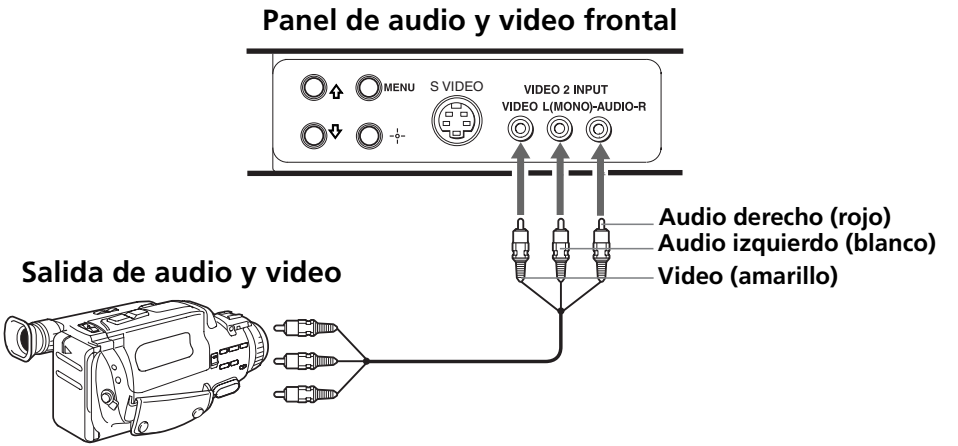
1 Conecte Y, P_B, P_R OUT de su reproductor de DVD a Y, P_B, P_R IN del televisor con cables de componentes de video (no incluidos).

2 Conecte la toma AUDIO OUT del reproductor de DVD a la toma AUDIO IN del televisor.

✍ Las salidas Y, P_B, P_R del reproductor de DVD en ocasiones están marcadas Y, C_B y C_R o Y, B-Y, y R-Y. En tal caso, conecte los cables según el color de las tomas.

Conexión de una cámara de video

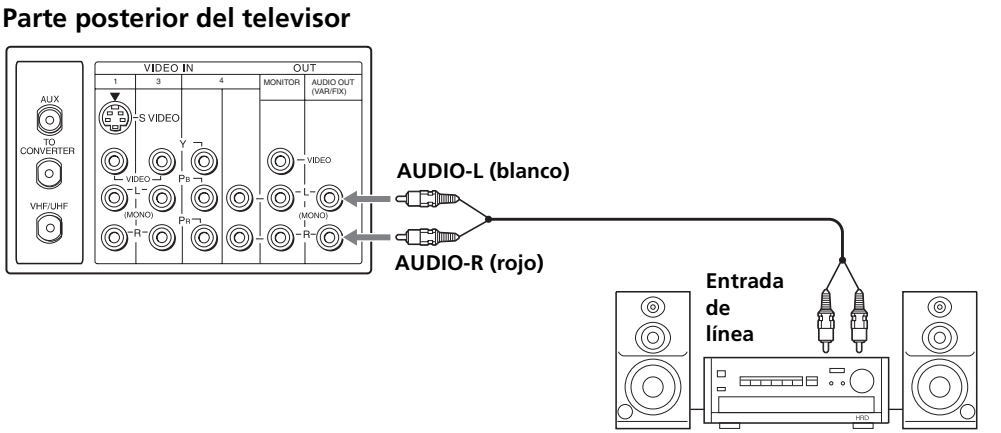
Conecte las tomas AUDIO y VIDEO OUT de la cámara de video a las de AUDIO y VIDEO IN del televisor con cables de audio y video (no incluidos).



✍ Si la cámara tiene salida de S VIDEO, puede usar un cable de S VIDEO para mejorar la calidad de la imagen. Utilice S VIDEO en lugar del cable amarillo de audio y video. Como S VIDEO no proporciona sonido, debe conectar los cables de audio de todas formas.

Conexión de un sistema de sonido

Conecte AUDIO OUT del televisor a una de las entradas de línea disponibles (por ejemplo TV, AUX, TAPE2) del equipo de sonido con cables de audio (no incluidos).



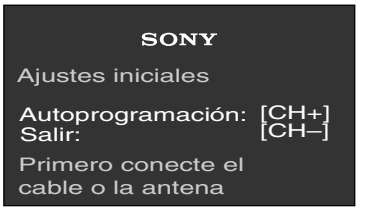
✍ Ajuste el equipo de sonido a la entrada de línea seleccionada. Consulte "Uso del Menú Audio" en la página 25 para obtener más instrucciones sobre la configuración del audio.

Uso de las funciones básicas

Ajuste automático del televisor

Cuando haya terminado de conectar el televisor, puede ajustar los canales con la opción de Autoprogramación.

1 Presione POWER para encender el televisor. Aparece la pantalla Ajustes iniciales.



2 Presione CH + en el control remoto o en el panel frontal del televisor para realizar la Autoprogramación, o presione CH – para salir.

✍ La pantalla Ajustes iniciales aparecerá cada vez que encienda el televisor hasta que active Autoprogramación.

Para volver a activar Autoprogramación

1 Presione MENU.

2 Presione ⇨ para seleccionar Canal.

3 Presione ⇩ para seleccionar Cable. Presione + para seleccionar.

4 Presione ⇧ o ⇩ para seleccionar Si o No según el estado del televisor. Presione +.

5 Presione ⇩ para seleccionar Autoprogramación. Presione + para buscar los canales.

6 Una vez finalizada la función de Autoprogramación, presione MENU para salir.

Acceso rápido a los menús

Los ajustes siguientes están disponibles en los menús de pantalla. Para obtener más detalles sobre el uso de los menús, consulte “Uso de los menús” en la página 23.

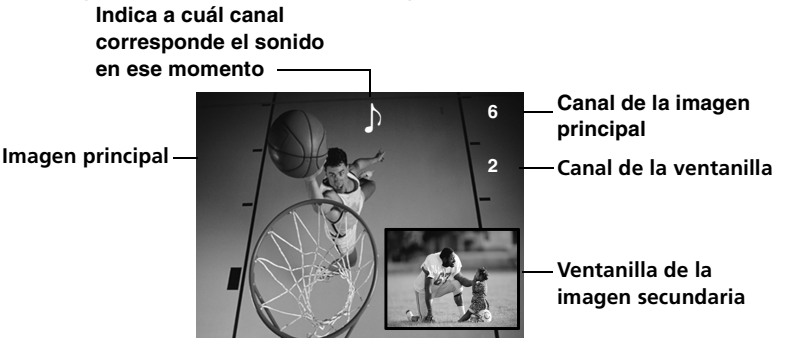
Menú	Permite
	Modificar los ajustes de la imagen.
	Cambiar el ajuste de audio.
	Personalizar el ajuste de los canales.
	Bloquear los canales no deseados.

Menú	Permite
	Ajustar el reloj del televisor y programar el encendido y apagado automático en un canal establecido mediante Timer 1 y Timer 2 (Reloj 1 y Reloj 2).
	Seleccionar los modos de subtítulos, etiquetar las entradas de video, corregir la inclinación de la imagen, seleccionar el idioma de los menús o ejecutar una demostración de los menús.
	Obtener acceso rápido a los ajustes de menú de uso más común.

Uso de Imagen dentro de una imagen (PIP)

La función de Imagen dentro de una imagen (PIP) le permite ver dos canales al mismo tiempo, uno en tamaño completo en la pantalla del televisor, y otro en una ventanilla dentro de la pantalla del televisor.

Para ver una Imagen dentro de una imagen


Indica a cuál canal corresponde el sonido en ese momento
Imagen principal
6
2
Canal de la imagen principal
Canal de la ventanilla
Ventanilla de la imagen secundaria

Para usar PIP (Imagen dentro de una Imagen):

1. Presione el botón TV FUNCTION del control remoto para ver un canal que se esté emitiendo.
2. Presione el botón PIP y aparecerá la ventanilla.
3. Use los botones PIP (amarillos) CH +/– para cambiar el canal de la ventanilla.

Para verificar su PIP

1. Presione el botón TV FUNCTION del control remoto para ver un canal que se esté emitiendo.
2. Presione el botón SWAP y seleccione el mismo canal que el de la ventana principal. Usted debe tener ahora el mismo programa en la pantalla principal y en la ventanilla.
3. Use los botones amarillos CH +/– para cambiar el canal de la ventanilla.
4. Ahora use los botones principales CH+/– de la parte inferior de su control remoto para cambiar el canal en la pantalla principal.
5. Presione el botón TV/VIDEO para cambiar a otras entradas de video de otros aparatos que estén conectados a cualquiera de las tomas VIDEO IN de la parte posterior de su TV. Debe ver una imagen distinta en la ventanilla para cada aparato de video que esté conectado al televisor. Asegúrese de que los aparatos conectados estén encendidos y funcionando cuando haga esta prueba.

6 Si la función PIP no funciona correctamente con el televisor o el equipo de video conectado a él, consulte la sección de Solución de problemas que comienza en la página 36 para ver posibles soluciones.

✍ Si tiene problemas con la función PIP, consulte la sección "Ajustes que pueden afectar el uso de Imagen dentro de una imagen PIP" (página 22) o consulte la sección de Solución de problemas (página 36) para ver posibles soluciones.

Funciones de botones PIP

Botones de etiqueta amarilla PIP	Descripción
PIP	Presione para activar la función PIP. Presione repetidas veces para cambiar el tamaño de la imagen de la ventanilla y desactivar la función PIP.
TV/VIDEO	Presione para recorrer el equipo de video que tiene conectado al televisor.
AUDIO	Presiónelo para alternar entre el sonido de la imagen principal y el de la ventanilla. El símbolo de sonido ♪ aparece durante tres segundos, indicándole si el sonido que escucha proviene de la imagen principal o de la ventanilla.
TV/VCR + CH −	Presiónelo para cambiar el canal de la ventanilla. Para cambiar el canal de la imagen principal, use los botones CH+/– en la parte inferior del control remoto.
POSITION	Presione para cambiar la ubicación de la ventanilla a cualquiera de las cuatro esquinas de la pantalla.
FREEZE	Presione para congelar la imagen de la ventanilla. Presione el botón de nuevo para restaurar la imagen. La imagen principal sigue funcionando normalmente
SWAP	Presione para intercambiar la imagen principal con la de la ventanilla. Presione este botón de nuevo para regresar al estado original.

✍ No se puede ver la imagen de entrada de AUX en la ventanilla.

✍ Para obtener más información sobre su control remoto, consulte "Uso del control remoto" en la página 3.

Ajustes que pueden afectar el uso de Imagen dentro de una Imagen (PIP)

- No podrá verse en la ventanilla PIP ningún equipo de video que tenga usted conectado a la entrada AUX.
- PIP no funcionará si está usted viendo todos los canales a través de un decodificador. Este dispositivo decodifica una sola señal a la vez, por lo que la imagen en la ventanilla será idéntica a la de la imagen principal.
- Se puede usar Imagen dentro de una Imagen para ver en su televisor imágenes provenientes de diversas fuentes. Por ejemplo, mediante esta función, se puede ver simultáneamente en la pantalla un canal normal de cable y la imagen generada por una videograbadora, un reproductor de DVD o un receptor satelital. Para lograrlo:

  1 Conecte el cable del servicio de televisión por cable en la entrada VHF/UHF en la parte posterior del televisor.

  2 Conecte el otro aparato (videograbadora, reproductor de DVD o receptor satelital) en cualquiera de las entradas VIDEO IN en la parte posterior del televisor.

  3 Sintonice una imagen en la imagen principal.

  4 Sintonice una segunda imagen en la ventanilla.

  Puede entonces intercambiar las dos imágenes que están en la pantalla del televisor.

✍ No se puede usar una señal mediante la entrada AUX con Imagen dentro de una Imagen.

Uso de los menús

Esta sección muestra las opciones disponibles para configurar y ajustar el televisor.

Para accesar a un menú

1. Presione MENU para ver el menú en pantalla.
2. Utilice los botones ⇦ o ⇨ para seleccionar el menú deseado y después presione ⊕.
3. Utilice los botones ⇧ o ⇩ para seleccionar la opción deseada y después presione ⊕.
4. Siga las indicaciones que aparecen en pantalla para activar las opciones deseadas. Presione ⊕ para terminar el ajuste.
5. Presione MENU para salir del menú.

✍ Presione MENU una vez para mostrar el menú en pantalla y presiónelo de nuevo para volver a la vista normal. Si no presiona ningún botón, el menú se cierra automáticamente transcurridos 90 segundos aproximadamente.

Uso del Menú Video

Para accesar al menú Video, siga los siguientes pasos:

Para mostrar **Para seleccionar**

Presione ⇩ para resaltar la opción deseada y después presione ⊕.

Modo
Visualización personalizada de la imagen

Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones:
Vívido: Seleccione este modo para aumentar el contraste y la nitidez de la imagen.
Estándar: Seleccione este modo para obtener una imagen estándar.
Película: Seleccione este modo para obtener una imagen muy detallada.
Deportes: Seleccione este modo para obtener una imagen brillante.

✍ Presione PICTURE MODE para accesar directamente a los ajustes de Modo (Vívido, Estándar, Película y Deportes).

Controles de imagen

Contraste: Presione ⇦ para reducir el contraste de la imagen. Presione ⇨ para aumentar el contraste de la imagen.
Brillo: Presione ⇦ para oscurecer la imagen. Presione ⇨ para aumentar el brillo de la imagen.
Color: Presione ⇦ para reducir la intensidad del color. Presione ⇨ para aumentar la intensidad del color.
Tinte: Presione ⇦ para aumentar los tonos rojos. Presione ⇨ para aumentar los tonos verdes.
Nitidez: Presione ⇦ para suavizar la imagen. Presione ⇨ para aumentar la nitidez de la imagen.

Temp. color
Ajuste de la tonalidad del blanco

Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones y después presione ⊕ para seleccionarla.
Frío: Proporciona a los colores blancos un tono azulado.
Neutro: Proporciona a los colores blancos un tono neutro.
Cálido: Proporciona a los colores blancos un tono rojizo.

ClearEdge VM
Definición de imagen

Aumenta la definición de la imagen al proporcionar un contorno limpio y nítido a los objetos. Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones: **No**, **Alto**, **Bajo**.

DynaBlack
Contraste dinámico

Mejora el contraste y hace más nítidos los detalles de las imágenes. Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones: **No**, **Alto**, **Bajo**.

Uso del Menú Audio

Para accesar al menú Audio, siga los siguientes pasos:

Para mostrar **Para resaltar** **Para seleccionar**

Presione ⇩ para resaltar la opción deseada y después presione ⊕.

Agudos	Presione ⇦ para reducir los sonidos agudos. Presione ⇨ para aumentar los sonidos agudos.
Graves	Presione ⇦ para reducir los sonidos graves. Presione ⇨ para aumentar los sonidos graves.
Balance	Presione ⇦ para reducir el volumen de la bocina derecha. Presione ⇨ para reducir el volumen de la bocina izquierda.
Auto Volumen *Estabiliza el volumen*	Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones: **Sí:** Seleccione esta opción para estabilizar el volumen cuando cambie de canal. **No:** Seleccione esta opción para desactivar Auto Volumen.
Efecto	Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones: **Simulado:** Simula el sonido estéreo de las salas de cine y teatro en los programas mono. **WOW:** Provee una espectacular presencia del sonido de los graves. Al activar WOW, BBE se activa directamente para mejorar aún más el programa de audio. **TruSurround:** Produce un sonido tridimensional dinámico en las señales de audio estéreo. **No:** Recepción mono o estéreo normal.

✍ Presione TV/SAT para accesar directamente a los ajustes de Efecto de Audio.

MTS
Sonido Multicanal del televisor

Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones:

Estéreo: Seleccione esta opción cuando vea una emisión en estéreo.

Mono: Seleccione esta opción para reducir el ruido en zonas de difícil recepción.

Auto SAP: Seleccione esta opción para que el televisor cambie automáticamente al Segundo Programa de Audio (SAP) al recibir la señal.

✍ Presione MTS/SAP para accesar directamente a los ajustes de MTS (Estéreo, Mono y Auto SAP).

Bocinas
Selección personalizada de la fuente de salida de audio

Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones:

Sí: Seleccione esta opción para escuchar el sonido de las bocinas del televisor con sistema estéreo adicional o sin él.

No: Seleccione esta opción para apagar las bocinas del televisor y escuchar el sonido del televisor únicamente por las bocinas del sistema de audio externo.

Salida de Audio
Utilícelo para controlar el volumen del televisor con un equipo de sonido

Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones:

Variable: Ajusta el volumen a través del televisor.

Fija: Ajusta el volumen del televisor a través de un dispositivo estéreo conectado.

✍ La función Salida de Audio sólo puede activarse cuando Bocinas se encuentra en la posición No.

✍ Si el televisor se encuentra en el modo Auto SAP, es posible que algunos programas se silencien o se distorsionen. Si el televisor no emite ningún sonido, cambie el ajuste de Audio a Estéreo o Mono.

Uso del Menú Canal

Para accesar al menú Canal, siga los siguientes pasos:

Presione ⇩ para resaltar la opción deseada y después presione ⊕.

Canales Favoritos
Acceso rápido a los canales favoritos

1. Presione ⇧ o ⇩ para seleccionar la posición (1 a 8) en la que desea ajustar un canal favorito y después presione ⊕.
2. Presione ⇧ o ⇩ para desplazarse por los canales hasta encontrar el que desea agregar a sus canales favoritos.
3. Presione ⊕ para seleccionarlo, esto cambiará su televisor de manera automática al canal que seleccionó.
4. Presione ⇦ para volver al menú de Canal o presione ⊕ para salir.

✍ Para usar la opción de Canales favoritos: Salga de todos los menús y presione ⊕. Presione ⇧ o ⇩ para desplazar el cursor al número de canal deseado y presione ⊕.

Cable

Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones:

Sí: Selecciónelo si recibe canales vía cable.

No: Selecciónelo si utiliza una antena de televisión.

✍ Después de cambiar los ajustes del cable, deberá realizar la función Autoprogramación.

Fijar Canal

Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones:

2-6: Selecciónelos cuando desee controlar toda la selección de canales por medio de un decodificador o una videograbadora. Seleccione el canal adecuado (normalmente el 3 o el 4) y utilice el control remoto del decodificador o de la videograbadora para seleccionar los canales.

Video 1: Seleccione esta opción desde las entradas de video disponibles cuando haya conectado el equipo de video (por ejemplo, el receptor de satélite) y desee que quede fijo en el televisor.

No: Fijar Canal no está activado.

Autoprogramación

Realice la función Autoprogramación siempre que ajuste el televisor. Recorrerá todos los canales disponibles y programará los que se reciben.

Omitir/Añadir Canal

Utilice esta función después de ejecutar Autoprogramación para omitir los canales no deseados o para añadir nuevos canales.

1. Presione ⇧ o ⇩ para seleccionar la posición del canal deseado y después presione ⊕.
2. Presione ⇧ o ⇩ para omitir o añadir canal y después presione ⊕.
3. Presione ⇦ para volver al menú de Canal o presione MENU para salir.

✍ Cuando presione CH+ o CH- no tendrá acceso a los canales omitidos, sólo a través de los botones ⓪-⑨ podrá sintonizarlos.

Nombre del Canal

Etiqueta hasta 40 canales con sus letras de llamada

1. Presione ⊕ y después presione ⇧ o ⇩ hasta que localice el número de canal deseado. Presione ⊕ para activar el canal.
2. Presione ⇩ para resaltar "Nombre" y después presione ⊕. Presione ⇧ o ⇩ para mostrar la primera letra de llamada o número de captura y después presione ⊕ para seleccionarlo. Repita este proceso, hasta que halla seleccionado todas las letras.
3. Presione ⇦ para volver al menú de Canal o presione MENU para salir.

✍ No podrá utilizar las opciones Canales Favoritos, Cable, Omitir/Añadir Canal, Nombre del Canal y el menú de Bloqueo de Canal cuando Fijar Canal esté activado.

Uso del Menú Bloqueo de Canal

Para accesar al menú Bloqueo de Canal, siga los siguientes pasos:

Para mostrar **Para resaltar** **Para seleccionar**

Presione ⇩ para resaltar la opción deseada y después presione ⊕.

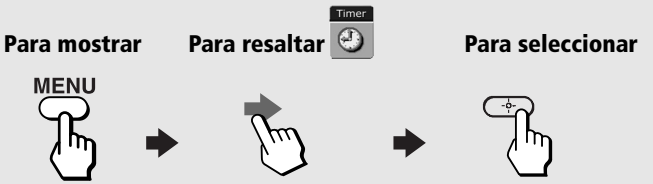
Bloquear o Desbloquear

1. Presione ⇧ o ⇩ para seleccionar la posición (1 a 4) en la que desee bloquear o desbloquear un canal y después presione ⊕.
2. Presione ⇧ o ⇩ para desplazarse por los canales hasta encontrar el canal que desee bloquear o desbloquear y después presione ⊕.
3. Presione MENU para salir.

✍ Si un canal está bloqueado, se mostrará una pantalla negra con la palabra "Bloqueado", (solamente para el uso habitual del televisor). La función Bloqueo de Canal se desactiva en los modos de Video..

Uso del Menú Timer (Reloj)

Para accesar al menú Timer, siga los siguientes pasos:



Hora Actual

Permite ajustar el día y la hora actual en su televisor. Presione ⊕ para abrir el menú de Hora Actual:

1. Presione ⇧ o ⇩ para introducir el día y la hora y después presione ⊕.
2. Presione MENU para salir del menú.

✍ Debe ajustar la Hora Actual antes de poder utilizar Timer 1 y Timer 2 (Reloj 1 y Reloj 2).

Timer 1 y Timer 2 (Reloj 1 y Reloj 2)

Visualización programada

Programa su televisor al día, hora, duración y canal deseado. La programación máxima del reloj es de 6 horas. Cuando el canal esté fijado, no será necesario introducirlo.

1. Presione ⇧ o ⇩ para seleccionar Timer 1 o Timer 2 (Reloj 1 o Reloj 2) y después presione ⊕.
2. Presione ⇧ o ⇩ para introducir el día, hora, duración y el canal deseado y después presione ⊕. Timer (Reloj) debe estar en Sí cuando se haya fijado, y se encenderá una luz roja en el panel frontal del televisor.
3. Presione MENU para salir del menú.

✍ Puede fijar Timer (Reloj) en las posiciones Si, No o Programar. Cuando Timer 1 y Timer 2 (Reloj 1 y Reloj 2) esté ajustado podrá activarlo y desactivarlo sin tener que revisar los ajustes.

✍ Al ejecutar Autoprogramación, los ajustes de Timer 1 y Timer 2 (Reloj 1 y Reloj 2) se borrarán. Asimismo, en caso de producirse una pérdida de electricidad, los ajustes de Hora Actual, Timer 1 y Timer 2 (Reloj 1 y Reloj 2) se borrarán.

Uso del Menú Ajustes

Para accesar al menú Ajustes, siga los siguientes pasos:

Presione ⇩ para resaltar la opción deseada y después presione ⊕.

Caption Vision
Subtítulos

Permite seleccionar tres modos de subtítulos (para programas que se emiten con subtítulos).

Presione ⇧ o ⇩ para seleccionar una de las opciones siguientes:

- **CC1, 2, 3, 4:** Muestra el diálogo impreso y los efectos de sonido de un programa.
- **Text1, 2, 3, 4:** Muestra información sobre la red o emisora.
- **Info:** Muestra el nombre del programa actual y el tiempo restante, si está disponible.
- **No:** Los subtítulos no están activados.

Etiqueta de Video
Etiqueta el equipo conectado

Permite etiquetar los componentes de audio/video que tiene conectado a su televisor: videograbadora, reproductor de DVD, etc.

1. Presione ⇧ o ⇩ para seleccionar la entrada que desee etiquetar y después presione ⊕.
2. Presione ⇧ o ⇩ para elegir una etiqueta y presione ⊕.
3. Presione ⇦ para volver al menú de Ajustes o presione ⊕ para salir.

Rotación

Presione ⇧ o ⇩ para corregir la inclinación de la imagen entre -5 a +5 y después presione ⊕ para activarla.

Idioma

Muestra todos los menús en el idioma elegido.
Presione ⇧ o ⇩ para seleccionar el idioma deseado (Español, Inglés, Francés) y después presione ⊕.

Modo 16:9

Proporciona una resolución mejorada de la imagen para fuentes de pantalla panorámica como el reproductor de DVD (sólo está disponible cuando el televisor esté en modo Video).

Demo
(Demostración)

Presione ⊕ para efectuar una demostración de los menús en pantalla.

✍ Puede presionar cualquier tecla para salir del modo Demo (Demostración).

Uso del Menú Básico

Para accesar al menú Básico, siga los siguientes pasos:

Presione ⇩ para resaltar la opción deseada y después presione ⊕.

Contraste *Contraste de la imagen*	Presione ⇦ para disminuir el contraste de la imagen. Presione ⇨ para aumentar el contraste de la imagen.
Caption Vision *Subtítulos*	En el menú Básico, Caption Vision solo muestra No y la última opción seleccionada (CC1-4, Text 1-4, o Info).
Efecto	Presione ⇧ o ⇩ para seleccionar una de las siguientes opciones y después presione ⊕. **Simulado:** Simula el sonido estéreo de las salas de cine y teatro en los programas mono. **WOW:** Provee una espectacular presencia del sonido de los graves. Al activar WOW, BBE se activa directamente para mejorar aún más el programa de audio. **TruSurround:** Produce un sonido tridimensional dinámico en las señales de audio estéreo. **No:** Recepción mono o estéreo normal.
Menú Avanzado	Presione ⊕ para volver a los menús avanzados.

✍ Si utiliza el botón MENU para cerrar el menú Básico, éste aparecerá de nuevo cuando vuelva a presionar MENU. Para accesar a los demás menús, presione ⇩ para resaltar el Menú Avanzado y después presione ⊕.

Información adicional

Programación del control remoto

Puede utilizar el control remoto incluido con equipos de video Sony y de otros proveedores.

1. Presione CODE SET.
2. Presione VCR/DVD o SAT/CABLE (FUNCTION).
3. Utilice los botones ⓪-⑨ para introducir el número de código según la siguiente tabla.
4. Presione ENTER.

Códigos de videograbadora

Sony	301, 302, 303	JCPenney	309, 305, 304, 330, 314, 336, 337
Admiral (M.Ward)	327	JVC	314, 336, 337, 345, 346, 347
Aiwa	338, 344	Kenwood	314, 336, 332, 337
Audio Dynamic	314, 337	LXI (Sears)	332, 305, 330, 335, 338
Broksonic	319, 317	Magnavox	308, 309, 310
Canon	309, 308	Marantz	314, 336, 337
Citizen	332	Marta	332
Craig	302, 332	Memorex	309, 335
Criterion	315	Minolta	305, 304
Curtis Mathis	304, 338, 309	Mitsubishi/MGA	323, 324, 325, 326
Daewoo	341, 312, 309	Multitech	325, 338, 321
DBX	314, 336, 337	NEC	314, 336, 337
Dimensia	304	Olympic	309, 308
Emerson	319, 320, 316, 317, 318, 341	Optimus	327
Fisher	330, 335	Panasonic	308, 309, 306, 307
Funai	338	Pentax	305, 304
General Electric	329, 304, 309	Philco	308, 309
Go Video	322, 339, 340	Philips	308, 309, 310
Goldstar	332	Pioneer	308
Hitachi	306, 304, 305, 338	Quasar	308, 309, 306
Instant Replay	309, 308	RCA/PROSCAN	304, 305, 308, 309, 311, 312, 313, 310, 329
Realistic	309, 330, 328, 335, 324, 338	Symphonic	338
Samsung	322, 313, 321	Tashiro	332
Sansui	314	Tatung	314, 336, 337
Sanyo	330, 335	Teac	314, 336, 338, 337

Códigos de videograbadora

Scott	312, 313, 321, 335, 323, 324, 325, 326	Technics	309, 308
Sharp	327, 328	Toshiba	312, 311
Shintom	315	Wards	327, 328, 335, 331, 332
Signature 2000 (M.Ward)	338, 327	Yamaha	314, 330, 336, 337
SV2000	338	Zenith	331
Sylvania	308, 309, 338, 310		

Códigos de decodificadores de cable

Sony	230
Hamlin/Regal	222, 223, 224, 225, 226
Jerrold/G. I.	201, 202, 203, 204, 205, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	209, 210, 211
Tocom	216, 217
Zenith	212, 213

Códigos de receptor de satélite

Sony	801
General Electric	802
Hitachi	805
Hughes	804
Panasonic	803
RCA/PROSCAN	802, 808
Toshiba	806, 807

Códigos de reproductores de discos láser

Sony	701
Panasonic	704, 710
Pioneer	702

Códigos de DBS

DIRECTV	809
Red Echostar/Dish	810

Códigos de reproductores de DVD

Sony	751
JVC	756
Mitsubishi	761
Onkyo	762
Oritron	759
Panasonic	753
Philips/ Magnavox	757
Pioneer	752
RCA	755
Samsung/Hitachi	758
Toshiba	754
Zenith	760

✍ Si aparecen varios códigos, introdúzcalos por separado hasta que encuentre el código correcto para su equipo.

✍ Cuando retire las baterías del control remoto, es posible que los números de los códigos vuelvan a los ajustes de fábrica y sea necesario reconfigurarlos.

✍ En casos excepcionales, es posible que no pueda utilizar el equipo con el control remoto incluido. En tal caso, utilice el control original de dicho equipo.

Uso de una videograbadora

Presione	Para
VCR/DVD	Encender la videograbadora
0-9	Seleccionar los canales directamente
CH + / CH −	Cambiar de canal
►	Reproducir cintas de video
■	Detener el funcionamiento
◄◄ o ►►	Desplazarse hacia adelante o hacia atrás
❚❚	Poner en pausa
● y ► (Simultáneamente)	Grabar
TV/VCR	Alternar entre las entradas VCR y TV

Uso de un reproductor de DVD

Presione	Para
VCR/DVD	Encender el reproductor de DVD
0-9	Seleccionar capítulos directamente
CH + / CH −	Buscar capítulos hacia adelante o hacia atrás
►	Reproducir un DVD
■	Detener el funcionamiento
❚❚	Poner en pausa
⇧, ⇩, ⇦, ⇨	Desplazar el cursor por el menú
MENU	Mostrar el menú DVD

Uso de un reproductor de discos láser

Presione	Para
VCR/DVD	Encender el reproductor de discos láser
CH + / CH −	Buscar capítulos hacia adelante o hacia atrás
►	Reproducir discos
■	Detener el funcionamiento
❚❚	Poner en pausa

Solución de problemas

Si tiene problemas con el televisor, intente seguir las indicaciones que se sugieren a continuación. Si el problema persiste, consulte con su proveedor Sony más cercano.

Problema	Posibles Soluciones
Hace falta restablecer los ajustes de fábrica	❏ Encienda el televisor. Mientras mantenga oprimido el botón RESET del control remoto, oprima el botón de encendido (POWER) en el televisor. (El televisor se apagará). Suelte el botón RESET, enciéndalo nuevamente.
No hay imagen ni sonido	❏ Asegúrese de que el cable de alimentación está conectado. ❏ Si hay una luz roja que parpadea en la parte frontal del televisor durante algunos minutos, desconecte y vuelva a conectar el cable de alimentación para restaurar el televisor. Si el problema persiste, llame al servicio técnico local. ❏ Compruebe los ajustes de TV/VIDEO: si ve la televisión, póngalo en TV; si ve imágenes de un aparato de video, póngalo en VIDEO (página 4). ❏ Asegúrese de que las baterías están introducidas correctamente en el control remoto (página 2). ❏ Intente ver otro canal para descartar algún problema en la emisora.
Imagen de baja calidad o sin imagen, buen sonido	❏ Ajuste el Contraste en el menú de Video (página 24). ❏ Ajuste el Brillo en el menú de Video (página 24). ❏ Compruebe las conexiones de la antena o del cable (página 7).
Buena imagen, sin sonido	❏ Presione MUTING para que desaparezca MUTING de la pantalla (página 3). ❏ Compruebe los ajustes de Audio. Es posible que el televisor esté ajustado en Auto SAP o Bocinas se encuentre en la posición NO (página 26).
Sin color	❏ Ajuste Color en el menú de Video (página 24).
Sin señal	❏ Compruebe el ajuste del cable en el menú de Canal (página 27). ❏ Compruebe las conexiones de la antena o del cable (página 7). ❏ Asegúrese de que el canal seleccionado esté emitiendo señal.
Líneas de puntos o rayas	❏ Ajuste la antena. ❏ Aparte el televisor de cualquier otro equipo electrónico. Algunos equipos electrónicos crean ruido eléctrico que puede interferir con la recepción del televisor.
Imágenes dobles o fantasmas	❏ Revise la antena exterior o llame al servicio técnico del cable.
No se reciben canales con un número alto (UHF) cuando se utiliza una antena	❏ Asegúrese de que Cable está en la posición No en el menú de Canal (página 27). ❏ Ejecute Autoprogramación para añadir canales que actualmente no estén en la memoria (página 17).
Parece que no funcionan las emisoras de cable	❏ Asegúrese de que Cable está en la posición Si en el menú de Canal (página 27). ❏ Ejecute Autoprogramación para añadir canales que actualmente no estén en la memoria (página 17).
El control remoto no funciona	❏ Al operar su televisor, oprima TV (FUNCTION). ❏ Vea si colocó las baterías correctamente. ❏ Las baterías pueden estar bajas. Sustitúyalas (página 2). ❏ Aleje el televisor a 1 metro aproximadamente de cualquier lámpara fluorescente.

Problema	Posibles Soluciones
No se puede cambiar el canal con el control remoto	❏ Asegúrese de que no ha cambiado el televisor del canal 3 o 4 con otro dispositivo para cambiar canales. ❏ Si está usando otro aparato para cambiar los canales, no olvide presionar el botón FUNCTION correspondiente a ese aparato. Por ejemplo, si está usando su videograbadora para controlar los canales, asegúrese de presionar los botones VCR/DVD FUNCTION (página 3).
No puede accesar a otros menús con el menú Básico.	❏ Si utiliza el botón MENU para cerrar el menú Básico, éste aparecerá de nuevo cuando vuelva a presionar MENU. Para accesar a los demás menús, seleccione menú Avanzado (página 32).
El control remoto no funciona en modo PIP	❏ Presione el botón TV FUNCTION. Es posible que accidentalmente haya presionado el botón VCR/DVD FUNCTION, que cambia los botones PIP al modo de videograbadora (página 20).
No aparece la ventanilla en pantalla o no tiene imagen	❏ Asegúrese que la ventanilla se encuentre sintonizada con una fuente de video o un canal con programación al aire. ❏ Es posible que se encuentre sintonizado con una entrada de video que no tiene nada conectado. Trate de recorrer sus entradas de video con el botón amarillo con el punto rojo PIP TV/VIDEO (página 20).
Se ve el mismo programa en la ventanilla que en la pantalla principal	❏ Es posible que ambas se encuentren sintonizadas al mismo canal. Trate de cambiar canales, ya sea en la pantalla principal o en la ventanilla (página 20). ❏ Es posible que su televisor esté configurado para seleccionar todos los canales mediante un decodificador de cable. El decodificador de cable sólo decodificará una señal a la vez, por lo que usted no podrá utilizar la función PIP. Si es posible, conecte un cable directo a la toma VHF/UHF de su televisor. Esto sólo funcionará si su sistema de cable proporciona una señal no codificada (página 9).
Sólo puedo sintonizar señal de televisión en la ventanilla	❏ Asegúrese de que no configuró la etiqueta de video en el menú de Ajustes (página 31) para omitir sus entradas de video.
El televisor está sucio	❏ Limpie el televisor con un paño suave y seco. Nunca use solventes fuertes como diluyentes o bencina, puesto que pueden dañar el acabado de la unidad.
Perdió el control remoto	❏ Puede utilizar los controles del panel frontal de audio y video para accesar a los menús (página 2). Póngase en contacto con su proveedor Sony más cercano para solicitar uno de repuesto.
Aparece un cuadro negro en la pantalla	❏ Está seleccionada una opción de texto en el menú de Ajustes (página 31) y no hay texto disponible. Para desactivar esta función, seleccione NO en la opción Caption Vision (subtítulos). Si desea ver subtítulos, escoja CC1 en lugar de Texto 1-4.

Si después de leer este manual de instrucciones, tiene más preguntas relacionadas con el uso del televisor Sony, póngase en contacto con su proveedor Sony más cercano para recibir asistencia técnica.

Especificaciones

Sistema de televisión	Estándar de televisión estadounidense /NTSC
Cobertura de canales	VHF: 2-13/UHF: 14-69/CATV: 1-125
Antena	Terminal de antena externa para VHF/UHF de 75 ohm
Tubo de imagen	Cinescopio FD Trinitron®
Requisitos de alimentación para todos los países excepto en donde se indique:	ca 120 V 60 Hz ca 220 V 50/60 Hz (Chile, Perú, Bolivia)
Accesorios incluidos	Baterías (R6) de tamaño AA (2) Control remoto RM-Y181
Accesorios opcionales	Cables de conexión VMC-810S/820S, VMC-720M, YC-YC-15V/30V, RK74A Mezclador EAC-66 U/V TV stand SU-27HV1
KV-29FV300	
Tamaño de la pantalla	Tamaño de pantalla visible: 679 mm medido en diagonal Tamaño de pantalla real: 736,6 mm medido en diagonal
Entradas/salidas	3 de video, 3 de audio 2 S VIDEO 1 Y, P_B,P_R, 1 de audio 1 Salida de Audio 1 Salida de Monitor
Salida de bocina	7.5 W × 2, 15 W Subwoofer
Consumo de energía para todos los países excepto en donde se indique:	220 W 210 W (Chile, Perú, Bolivia) 1 W en espera
Dimensiones (Anch. × Alt. × Prof.):	784 × 601,5 × 520 mm ($30\frac{7}{8} \times 23\frac{11}{16} \times 20\frac{1}{2}$ pulgadas)
Peso	48 kg (105 lbs. 13oz)

El diseño y las especificaciones están sujetos a cambios sin previo aviso.

Índice alfabético

A

Agudos 25
Autoprogramación 17, 27
Auto Sap 26
Auto Volumen 25

B

Balance 25
Bloquear o desbloquear 29
Bocinas 26
Brillo 24

C

Cable 27
Canales Favoritos 27
Caption Vision 31
Caracteristicas del televisor 1
ClearEdge VM 24
Color 24
Conexiónes
- Cable y antena 7
- Decodificador y cable 9
- Decodificador y televisor 8
- Conexión de dos videograbadoras 12
- Conexión de una cámara de video 16
- Conexión de un reproductor de DVD 15
- Conexión de un sistema de sonido 16
- Conexión de un televisor, una videograbadora y un decodificador 11
- Conexión de un televisor, un receptor de satélite y una videograbadora 14
- Conexión de un televisor y una videograbadora 10
- Conexión de un televisor y un receptor de satélite 13

Contraste 24
Control remoto
- Programación 33
- Uso 3, 4

D

Demo(Demostración) 31
DISPLAY(Despliegue) 4
Dyna Black 24

E

Efecto
- No 25
- Simulado 25
- TruSurround 25
- WOW 25

Especificaciones 38
Etiqueta de Video 31

F

Fijar Canal 27

G

Graves 25

H

Hora actual 30

I

Idioma 31
Imagen dentro de una Imagen (PIP) 20
Instalación de baterías 2

M

Menús
- Ajustes 31
- Audio 25
- Básico 32
- Bloqueo de Canal 29
- Canal 27
- Timer (Reloj) 30
- Video 24

Modo 16:9 31
Modo
- Deportes 24
- Estándar 24
- Película 24
- Vívido 24

MTS
- Auto Sap 26
- Estéreo 26
- Mono 26

N

Nitidez 24
Nombre del Canal 28

O

Omitir/Añadir Canal 28

P

Panel frontal del televisor 2
Panel posterior del televisor 5

R

Rotación 31

S

Salida de Audio 26
SLEEP 3
Solución de problemas 36

T

Temperatura del Color 24
Timer 1 y Timer 2 (Reloj 1 y Reloj 2) 30
Tinte 24

Self Diagnosis Supported model

SERVICE MANUAL

BA-5D CHASSIS

MODEL NAME	REMOTE COMMANDER	DESTINATION	CHASSIS NO.
KV-27FV300	RM-Y181	US	SCC-S65AA
KV-27FV300	RM-Y181	CND	SCC-S64AA
KV-29FV300	RM-Y181	LATIN NORTH	SCC-S62BA
KV-29FV300	RM-Y181	LATIN SOUTH	SCC-S62CA
KV-32FV300	RM-Y182	US	SCC-S65BA
KV-32FV300	RM-Y182	CND	SCC-S64BA
KV-36FV300	RM-Y182	US	SCC-S65CA
KV-36FV300	RM-Y182	CND	SCC-S64CA
KV-36FV300	RM-Y182	HAWAII	SCC-S67AA

CORRECTION - 1

SUBJECT: CRITICAL PARTS INCORRECTLY IDENTIFIED IN EXPLODED VIEW, ELECTRICAL PARTS LIST, A BOARD SCHEMATIC

Correct the service manual as shown.
File this Correction with the service manual.

☛ : Corrected Item

SECTION 6: EXPLODED VIEWS

6-1. CHASSIS (KV-27FV300/29FV300 ONLY) (Page 55)

INCORRECT

	REF. NO.	PART NO.	DESCRIPTION
⚠	9	8-598-593-00	TUNER, FSS BTF-WA421
	14	1-771-787-12	SWITCH, RF ANTENNA

CORRECT

	REF. NO.	PART NO.	DESCRIPTION
☛	9	8-598-593-00	TUNER, FSS BFT-WA421
⚠ ☛	14	1-771-787-12	SWITCH, RF ANTENNA

SECTION 7: ELECTRICAL PARTS LIST (Page 70)

INCORRECT

	REF. NO.	PART NO.	DESCRIPTION
⚠	TU001	8-598-593-00	TUNER, FSS BTF-WA421

CORRECT

	REF. NO.	PART NO.	DESCRIPTION
☛	TU001	8-598-593-00	TUNER, FSS BFT-WA421

TRINITRON® COLOR TELEVISION

SONY®

9-965-924-91

Sony Corporation
Sony Technology Center
Technical Services
Service Promotion Department

English
2002EJ74WEB-1
Printed in USA
© 2002.5

A BOARD SCHEMATIC DIAGRAM